BOARD OF PUBLIC UTILITIES

Adopted Amendments: N.J.A.C. 14:4-9 (Net Metering and Interconnection Standards for Class I Renewable Energy Systems)

Proposed:	December 1, 2003 at 35 N.J.R. 5356
Adopted:	September 13, 2004, by the New Jersey Board of Public Utilities, Jeanne M. Fox, President, and Frederick F. Butler, Carol J. Murphy, Connie O. Hughes, and Jack Alter, Commissioners.
Filed:	September 13, 2004
Authority:	N.J.S.A. 48:2-13 and 48:3-49 et seq., in particular 48:3-87
BPU Docket Number:	EX 03100795
Effective Date:	October 4, 2004
Expiration Date:	January 9, 2006

The Board of Public Utilities (Board) is herein adopting amendments to its rules governing net metering for class I renewable energy systems. The rules, set forth at N.J.A.C. 14:4-9, implement provisions of the New Jersey Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 et seq. (EDECA).

These amendments were proposed on December 1, 2003 at 35 N.J.R. 5356. The Board accepted comment on the rules through January 30, 2004. The Board received approximately 100 comments from nine commenters. During the comment period, the Board held three stakeholder meetings to gather public input on the proposal, and one stakeholder meeting on September 2, 2004, after comments closed. The results of that meeting are summarized below, at the end of the responses to comments received during the comment period.

Summary of Public Comments and Agency Responses:

The following persons submitted timely comments on the proposal:

- John L. Carley, Rockland Electric Company (RECO);
- Gregory Eisenstark, Public Service Electric and Gas Company (PSE&G);
- Denise R. Foster, PJM Interconnection, LLC (PJM);
- Julie L. Friedberg, Thelen Reid & Priest LLP, on behalf of Jersey Central Power & Light Company (JCP&L);
- Randall V. Griffin, Conectiv Power Delivery (CPD);
- Elaine A. Kaufmann, New Jersey Division of the Ratepayer Advocate (RPA);
- James O'Hern, Consensis, LLC (C);
- Rudy Stegemoeller, on behalf of Plug Power, Inc. (PP);

- James Torpey, PVNOW consortium of seven solar electric manufacturers (PVNOW); and
- Timothy Ryan, Arcadia Windpower Holdings, LLC (AWP).

General comments:

1. COMMENT: The interconnection rules should be expanded to include all types of small distributed generation. The proposed amendments apply only to Class I renewable energy sources. Because natural gas fuel cells are not presently included in the definition of Class I resources, a customer wishing to install a 5 kW fuel cell would not be able to use the interconnection procedures in these rules. Fuel source has no bearing on the question of how to establish a safe, cost-effective interconnection. Of the models cited by the Board, FERC, NARUC, and Massachusetts do not limit the applicability of their interconnection rules based on the fuel source of the generating equipment, and IREC leaves the question open. Although fuel source has often been found relevant to the question of financial incentives, we are not aware of any state or other jurisdictional body that has limited the applicability of interconnection rules based on fuel source. While states differ on the question of whether natural gas fuel cells should be deemed "renewable," there is no questioning that our fuel cells are clean and efficient. (PP)
   RESPONSE: While the main thrust of the rules is to facilitate renewable energy, the interconnection provisions of the rules could apply to any generating source, not only to class I renewable energy generators. To clarify this, new N.J.A.C. 14:4-9.5(f) has been added upon adoption and the definition of "customer-generator" has been modified. The net metering rules, however, are limited to class I renewable energy sources, and, as noted by the commenter, natural gas powered fuel cells are not class I renewable energy sources. Fuel cells have historically been installed in New Jersey under existing EDC or PJM guidance, and can in future be interconnected using the procedures in the interconnection provisions adopted herein.

2. COMMENT: Interconnection standards for any kind of distributed generation resources must satisfy two objectives. The distributed resource must be afforded timely access to the electric grid on fair terms that are not unduly onerous. Also, the reliability and quality of electric power delivered through distribution circuits must not be impaired as a result of the addition of the distributed resource. With the amendments proposed by the Board, the New Jersey standards governing interconnection will constitute a comprehensive rule that addresses and generally satisfies these two objectives. (RPA)
   RESPONSE: The Board acknowledges this comment in support of the rules.

3. COMMENT: The proposed RPS rule amendment already provides sufficient incentives and funding sources for wind and solar energy development – thus potentially rendering the net metering portion of this proposed rule making duplicative and unnecessary. The Board Staff has yet to substantiate how: "The increase in the capacity of net metering equipment will reduce the barriers that work against the goals set forth by Governor McGreevey's Renewable Energy

Task Force" (see the proposal summary page three). If such barriers exist, why were they not addressed under the RPS rule? If the Board's goal is to eliminate "unnecessary barriers to the use of distributed generation" (ibid), then the right public policy procedure should be used rather than reading into EDECA what the legislators did not intend in N.J.S.A. 48:3-87. We are not suggesting unnecessary delays but a need for collaboration, negotiations, and compromise among all parties for a fair and equitable rule that incorporates lessons learned from the implementation of PURPA and experience from other states. Such a rule is needed to guide a smooth transition from the current to the future energy infrastructure envisioned by the administration. (CPD)

RESPONSE: The Board agrees that the RPS rules are an effective method to increase use of renewable energy. However, both the EDECA mandate and the recommendations of the Renewable Energy Task Force require that the Board implement both renewable portfolio standards and net metering. This multifaceted approach will best meet the Board's goal to develop a renewable energy market in New Jersey that can be self-supporting as soon as possible. These rules are intended to address several barriers to distributed generation, including unnecessarily restrictive net metering requirements, and the lack of clear and standardized interconnection procedures. The Board believes that the proposed net-metering rules will aid the installation of additional clean distributed generation that will enhance the electric distribution system as well as the environment.

4. COMMENT: We are generally supportive of encouraging small renewable resources to interconnect to the grid. Distributed resources potentially afford an opportunity for load to respond to wholesale price signals, among other benefits. It is our belief that demand response is desirable to further advance the wholesale competitive energy market. However, advancement of distributed resources throughout the PJM region may need to be coordinated with PJM real-time operations and planning that may need to be considered as behind-the-meter programs further mature. (PJM)

   RESPONSE: The Board will continue to work with PJM to optimize the effective use of all generator resources.

5. COMMENT: We do not believe that the proposed modification of New Jersey's net metering program will pose any significant challenges to PJM system operators' ability to ensure the real-time reliability of the transmission system. However, if in the future BPU considers modifying the regulations to increase the MW size of units that would be eligible to operate behind the meter, operational coordination with PJM may be necessary. PJM currently requires generators greater than 10 MW located in PJM to have metering to PJM. This allows the generator to be visible to PJM Operators so that the PJM Operators know in real-time whether the individual units are operating, and whether PJM should expect to ensure that the load otherwise served by those behind-the-meter generators will need to be served by other means. The proposed New Jersey regulations would permit Class I renewable energy resources up to 2 MW to participate. Under PJM's current rules, units of that size are not required to submit metered data to PJM. Although the

size of the program that may result from New Jersey's proposed regulations may be relatively small in comparison to the entire PJM market, it is the localized challenges that PJM Operators may need to be prepared to encounter which could result if a relatively significant amount of generation in a particular area were to be "invisible" to PJM. (PJM)

RESPONSE: The Board will continue to coordinate with PJM as it implements the net metering and interconnection rules, and in any deliberations regarding possible changes to its interconnection procedures.

6. COMMENT: We applaud the BPU for taking such a progressive approach to the development for renewable energy projects. The proposed NMS are probably the most far reaching to be proposed in the country and we strongly commend the BPU for moving these forward. We support the proposed standards. (C) (AWP)

   RESPONSE: The Board acknowledges this comment in support of the rules.

7. COMMENT: Our members represent the leading companies in a two billion dollar industry that is growing at 30% per year. Our member companies manufactured approximately two thirds of the solar electric equipment sold in the world last year. The companies we represent employ thousands of workers in their manufacturing, sales and support operations. Our members are very excited about the developing market in New Jersey for solar electricity and wish to express their strong support for the policy initiatives that are being introduced by the New Jersey Board of Public Utilities. The growing market and supportive State policies are causing all the companies in the solar industry to stand up and take notice of the opportunities in New Jersey to build a long term sustainable market. Many member companies have already committed resources to the State, creating jobs in the local solar industry, with more to follow as sales increase. (PVNOW)

   RESPONSE: The Board appreciates this comment in support of these rules and the Board's renewable energy programs.

8. COMMENT: Safety, system control and reliability concerns should be addressed further in the amendments. We have enclosed a marked version of the Net Metering Standards that includes additional changes not discussed in detail in our comments. Each of those changes are intended to clarify the Net Metering Standards in a manner that will preserve distribution system integrity, control and safety. None of the proposed changes are intended to eliminate any customer-generator facility from being interconnected to the EDCs' systems. Rather, those changes are intended to assure that each planned facility receives the appropriate level of review and study by the EDC prior to interconnection. Based on our participation in the stakeholder meetings leading up to the proposed Net Metering Standards, we are aware that many of the screening criteria included in the current proposal were adopted as "generally accepted" for use in evaluating interconnection applications. We are cognizant of the Board's desire to adopt uniform standards that will facilitate interconnection to the greatest degree possible. However, given the complexity of electric distribution systems, variable local conditions, and differences between EDC systems, it is not always possible

for all EDCs to adequately evaluate systems using a single set of standards. Rather, the Net Metering Standards should allow for more stringent review as and where necessary. Accordingly, we offer the suggested revisions to the Net Metering Standards to allow for the appropriate level of review of customer-generator facilities on a case-by-case basis. We urge the Board to consider these suggestions in the spirit in which they are being proposed – as a constructive change to the Net Metering Standards to permit interconnection in a manner that will preserve distribution system integrity, control and safety. (JCP&L)

RESPONSE: The Board appreciates the thoughtful and comprehensive review and input provided by the commenter and other stakeholders, as well as the insights provided at stakeholder meetings throughout the rule development process. Should a specific application appear to present special concerns for an EDC, the EDC can conduct any studies it deems necessary to determine the safety or reliability of a proposed interconnection. If the EDC believes an interconnection application is sufficiently problematic that the deadlines and requirements in the rules should not apply, despite having met the tests set forth in the rule the matter can be brought before the Board staff informally, or a waiver can be requested from the Board in accordance with N.J.A.C. 14:1-1.2(b).

9. COMMENT: PJM performs planning analysis to determine what transmission upgrades are required in order to ensure the long-term reliability of the transmission grid. If New Jersey's proposed net metering program were to be modified or expanded, PJM would need to determine how to factor in the effects of such changes in the program into PJM's long-term reliability planning. (PJM)

RESPONSE: Should the Board contemplate modification or expansion of its interconnection procedures, it will coordinate with PJM as part of its deliberations.

10. COMMENT: We applaud the BPU commissioners and Board staff for their tireless work in revising the interconnection standards and net metering rules. With minor modifications, the interconnection standards will create a model for other states that will propel New Jersey to the forefront of the effort to provide reasonable access to the distribution grid on a non-discriminatory basis while providing adequate safeguards to maintain high standards for safety and reliability. The net metering rules will help encourage the installation of renewable energy systems that will provide wide benefits for the public in New Jersey. As an organization representing the largest companies in the solar industry, we remain committed to working with the Board as we mutually strive to achieve the energy and economic development goals set forth by Governor McGreevey. (PVNOW)

RESPONSE: The Board appreciates this comment in support of the rules.

11. COMMENT: We commend the Board for the process used in developing the interim RPS amendment – namely the formation of the Governor's Taskforce. In that Taskforce, the EDC's perspective was heard. The collaborative process used for the RPS rule amendment resulted in a reasonable compromise-based policy that the Board admits "calls for significant increases in the amount of renewable generation in New Jersey, particularly solar electric generation." In contrast, the

process followed for this proposed amendment departs significantly from the compromise-based procedure adopted for the amendment of the RPS rule. At its August 18, 2003 agenda meeting, the Board announced that it would publish proposed amendments to the net metering and interconnection rules. Board Staff described the changes to the interconnection standards as "minor. Although the EDCs had filed comments with respect to interconnection standards in December 2002, Board Staff convened no collaborative meetings prior to the August 18 agenda meeting announcement. This stands in contrast to the process the Board followed in 2001 and 2002 in developing the current interconnection standards, where the Board held several meetings, distributed draft proposals, and sought comments. When the Board Staff made its draft net metering proposal available to EDCs in September 2003, those proposals included a radical expansion of the size of customer and type of equipment eligible for interconnection using procedures that had been developed to interconnect a very small generator with a specific type of equipment. Staff only then solicited informal comments from the utilities and other stakeholders. The New Jersey EDCs collaboratively gave the Board Staff comments in October. The Board Staff responded that "it was too late to make informal changes – you should formally submit" comments. Thus far, there has been little to indicate that the legitimate concerns of EDCs are being taken into consideration. Procedurally, little or no input from EDCs was solicited prior to the time the amendment was proposed. Staff's disregard of EDC views and the statutory requirement was evident even in the informal meetings that were held subsequent to August 2003. The agenda for the January 8, 2004 meeting, for example, made it clear that the Board Staff was not particularly interested in the input of EDCs stating that: "While consensus may arise on some issues, it is not likely and is not necessary." Because these stakeholders' meetings were held after the proposed rule amendment was published, substantial related issues raised by the EDCs were ignored with the direction to "submit any formal comments in writing as indicated in the proposal." We are concerned about this type of policy process and urge the Board to direct Staff in the future to hold stakeholder meetings that solicit input from the EDC. Finally, we submit that there are interrelationships among the RPS standards and the net metering and DG interconnection standards, which should be taken into consideration and have not. (CPD)

RESPONSE: Please see the response to comment 12 below.

12. COMMENT: We request that the Board not adopt a final rule at this time. Instead, the Board should carefully consider the issues raised in comments and conduct a meaningful stakeholder process in an effort to reach agreement on as many issues as possible across a broad range of stakeholders prior to publishing a revised proposal in the New Jersey Register for public comment. The California Energy Commission held extensive stakeholder meetings over a multi-year period before the California Public Utilities Commission adopted its Rule 21, which, despite California's other energy industry problems, is viewed by many as a model for distributed generation interconnection standards. In addition, California's Rule 21 explicitly created an on-going post-implementation working group to address issues that arise in the future. Similarly, the Board followed a collaborative

process in 2001 and 2002 in developing the current uniform net metering interconnection standards, including meetings, distributing draft proposals, and seeking comments. The Board should invest the time to ensure that its final rule properly balances the Board's desire to promote renewable-based distributed generation with other stakeholders interests, including the EDCs' legitimate reliability, safety and financial concerns. The additional stakeholder process that we recommend would also give the Board the time necessary to carefully compare its proposal with FERC's final order and, if applicable, the final PJM rules, to ensure consistency. We are fully prepared to work with the Board and all stakeholders to develop appropriate, balanced net metering and renewable DG interconnection rules to make this initiative successful. We note that the Board did not conduct a collaborative process after the utilities filed suggested interconnection standards in December 2002, nor did the Board seek input from the EDCs prior to developing its rule proposal, as announced at the August 18 agenda meeting. Moreover, the consultants the Board has retained to assist with the preparation of the rule proposal are well-known advocates for the renewable/DG industries. Such a process, where utility or other stakeholder input is not even solicited, is not conducive to consensus-building on a large-scale, new rule proposal. After the EDCs informally requested that the Board conduct a collaborative stakeholder process prior to publishing a rule proposal, the Board separated the net metering and DG interconnection standards from the RPS standards into a separate rule making. In mid-September Board Staff made available the draft net metering and DG interconnection rule proposal, and held one meeting where the Board's consultants presented information concerning the rule proposal to interested parties. Board Staff asked the EDCs to submit written comments on the draft proposal, which the EDCs did on October 17, 2003. However, just a few days after the EDCs provided their comments, the Board authorized publication of the rule proposal at its October 22, 2003 agenda meeting. The December 1, 2003 published rule proposal failed to incorporate many of the significant EDC comments on the pre-publication draft. After the Board authorized publication of its rule proposal, it held four stakeholder meetings to address technical issues. While these meetings were open to the public and provided a forum for stakeholder input, the meetings were largely limited to technical issues and Board Staff never entertained specific changes to the rule proposal. In fact, when the four EDCs provided a redlined draft of the rule proposal to Board Staff (proposing changes for technical/engineering issues only), Staff's response was that the changes were too significant to incorporate into the rule at this time. Accordingly, we suggest that the Board continue the collaborative process that it just recently started, to achieve as much stakeholder input (and reach consensus on compromise positions, where possible), prior to publishing a new rule proposal. concerns regarding fault current, islanding, back feeding, relay and protective equipment coordination and other technical issues should be resolved through a consensus process with the right level of technical expertise involved. (PSE&G) (CPD)

RESPONSE: The Board agrees that stakeholder input is critical in developing effective rules, and in fact these rules have benefited from extensive and varied stakeholder input, as follows:

1. Staff who participated in the 2001 and 2002 stakeholder processes were involved in the development of this rule and provided the benefit of their experience and insight;
2. Board staff consulted on an ongoing basis over the course of five years with stakeholders representing the electric distribution companies as well as small generators and the renewable energy industry;
3. Net metering and interconnection issues formed a significant portion of the issues addressed by the Renewable Energy Task Force. The Renewable Energy Task Force included EDCs, load-serving entities, renewable energy industry representatives, and government officials;
4. Board staff met informally with representatives of the utility companies, including the commenter, on September 11, 2003, prior to proposing the rule. At that meeting, the utility representatives were provided with draft rule provisions and invited to provide comments. The Board requested, and the utility representatives agreed, that comments would be provided with sufficient time for the Board to consider them within the deadline for proposal. However, the comments were not submitted within that deadline;
5. On September 22, 2003, the Board held a public seminar on interconnection issues, at which a draft of the rules was presented and discussed with multiple stakeholders;
6. After the amendments were proposed on December 1, 2003, the Board held a series of three stakeholder meetings during which detailed stakeholder discussion of the amendments provided invaluable input to Board staff. Board staff did not, as reported by the commenter, state at those meetings that the changes suggested by the stakeholders were too significant to incorporate into the rules. Rather, Board staff explained that, if the stakeholder input indicated that significant changes were needed, these changes would be accomplished through a proposed amendment or reproposal rather than upon adoption of this set of amendments. (Such a process was followed in a recent amendment to the renewable portfolio standards rules, in order to incorporate changes that were suggested after the proposal was published. See 36 NJR 1892 and 2053); and
7. Board staff are engaged in the type of ongoing working group suggested by the commenter. The working group, formed in late November, is comprised of stakeholder representatives, including representatives of the commenter. The working group is assisting the Board in addressing implementation issues, including developing application forms, model interconnection agreements, and the like.

13. COMMENT: The Board should also be aware that FERC may choose to accept PJM requirements as a "regional variation" envisioned in its notice of proposed rulemaking for interconnecting small generators within the PJM region, in lieu of following the specific terms of its expected Small Generator Interconnection final

Order. This further raises the possibility of inconsistent standards -- any net metered customers in New Jersey that wish to be wholesale participants in any PJM market must follow PJM's procedures, not rules the Board may adopt. The New Jersey rules should be carefully compared with FERC's final order and, if applicable, PJM rules to ensure consistency. (CPD)

RESPONSE: The Board does not intend these rules to supplant PJM's interconnection rules. The Board has added N.J.A.C. 14:4-9.5(g) upon adoption to clarify that these interconnection rules apply only to the extent that they do not conflict with PJM's interconnection requirements. Thus, a generator who sells energy wholesale would not be subject to inconsistent standards.

14. COMMENT: The goals of EDECA and PURPA are to encourage development of renewable energy and reduce reliance on fossil fuels. The proposed rules further these goals, because they will allow solar and wind generators to recognize greater economic value than they are able to currently recognize under both state rules and PURPA. It is almost always more economically beneficial for a solar or wind generator to net meter rather than sell power to the utility at "avoided costs." Net metering allows the generator to obtain the full value of its electricity and not just the avoided generation costs. However, there are some instances when it may be more appropriate for the customer-generator to operate as a PURPA qualifying facility (QF) and obtain the value of avoided cost of wholesale cost of power. As a QF the customer-generator could enter a contract with a utility, which pays them on a monthly basis not on annual basis. Of course that will be more beneficial economically to the customer-generator rather than receiving a payment at the end of the year. Another scenario arises when the cost of avoided wholesale power costs exceeds the customer's bundled retail electric rates. This will occur during peak power periods when PJM wholesale power prices spike. A solar generator could then sell its power back to the utility at the wholesale PJM rates. In those instances the customer-generator should be able to switch to a QF status to recognize that greater value. Those attendant economic benefits will make the solar projects more economically feasible. Moreover, and perhaps more importantly, from a policy perspective, selling back to the utility reduces strain on the grid during peak power periods. The utilities would have the discretion to dispatch the power to where it is most needed during periods of high demand. Given the history of blackouts in the summer of 1999, and 2003, the BPU should strongly support that goal to eliminate strain on the grid. (C)

RESPONSE: The intent of the net metering rules is to encourage customer-generators to serve their own electric load, which should reduce strain on the grid at all times. The commenter's change, however, would subject each customer-generator to all of the Board's licensing requirements and other regulations that apply to energy suppliers and PURPA facilities. This was not the intent of EDECA. Therefore, the commenter's suggested change has not been made.

15. COMMENT: The challenges confronting electric customers seeking to install their own small-scale wind or PV project can be daunting. Regulatory policies, system limitations, utility practices and attitudes can discourage electric customers

from investing in renewable technologies. Net metering is a useful policy tool to address these barriers and to encourage cost effective investment in direct-use renewable energy projects. The Board is correct in its statement in the proposal that, in order to achieve the goals of Governor McGreevey's Renewable Energy Task Force, "developers of renewable power will need to market much larger systems than customer-generators are currently permitted to use for net metering under the existing rules." We recognize the very legitimate concerns of utilities and EDCs about the possible impact of net metering upon revenues and the reliability and safety of the electric grid. However, these concerns should not act as barriers to increasing eligibility for net metering to 2 megawatt renewable energy projects. The New Jersey State Legislature has effectively addressed the issue of lost revenues by capping net metering system eligibility capacity to 0.1% of a utility's peak demand or an annual financial impacts to a utility of $2 million. Further, the proposed net metering amendments address safety and reliability through a simplified interconnection procedure and agreement. (AWP)

RESPONSE: The Board appreciates this comment in support of the rules.

16. COMMENT: The screening process is reasonable but could be further simplified. For units of 10 kVA and smaller, the primary screen will still be needlessly complex until aggregate levels of DG become high enough for a small unit to potentially trigger one or more of the screening criteria. The screening process that was developed through FERC's collaborative process in the fall of 2002 did not represent a complete consensus; it merely represented a tentative consensus on certain elements, pending resolution of other elements, most notably a fee schedule and jurisdictional issues. The FERC process was oriented toward projects much larger than 10 kVA, and from the perspective of very small DG, the primary screen was developed to be used as a last resort, in states that had not developed interconnection rules of their own. Development of interconnection rules involves creating a reasonable balance between the DG developers' need for predictable, uniform and inexpensive procedures, and the utilities' need for the flexibility to ensure that any particular installation will not have an adverse effect on distribution systems. In striking this balance, a procedure that is reasonable for a 500 kW project will in almost all cases be prohibitive for a 10 kW project. The present trend of states adopting the screens represents a step forward, but does not in itself resolve the problems faced by very small DG projects. A common sense approach to small projects can be found in Massachusetts' proposed rules in which an inverter-based project of 10 kVA or smaller can avoid all but one element of the screening process. New York's Standardized Interconnection Requirements avoid the use of a screening process altogether, relying instead on a provision that prevents utilities from charging study fees for projects of 15 kVA or smaller. The approach taken in the Massachusetts proposal may be the optimal approach at this time. It provides the objectivity of a screening process, while not requiring needless effort in the case of very small projects where aggregate levels of DG are clearly not high enough to warrant concern. (PP)

RESPONSE: The Board agrees that a balance is needed between the needs of customer-generators and utilities, and between the goals of simplicity and flexibility.

The Board believes that the rule as adopted strikes such a balance. While the rule provides a straightforward and transparent process for all interconnections, it nonetheless enables the EDCs to identify potentially problematic interconnections that might require additional study. The Board considered both the New York and Massachusetts models and has incorporated those aspects of each that the Board believes are most appropriate for use in New Jersey. While the review process may seem complex when expressed in a narrative in the rule, the Board believes that in practice the requirements will be easy to apply. Below is a flow chart illustrating the interconnection review process:

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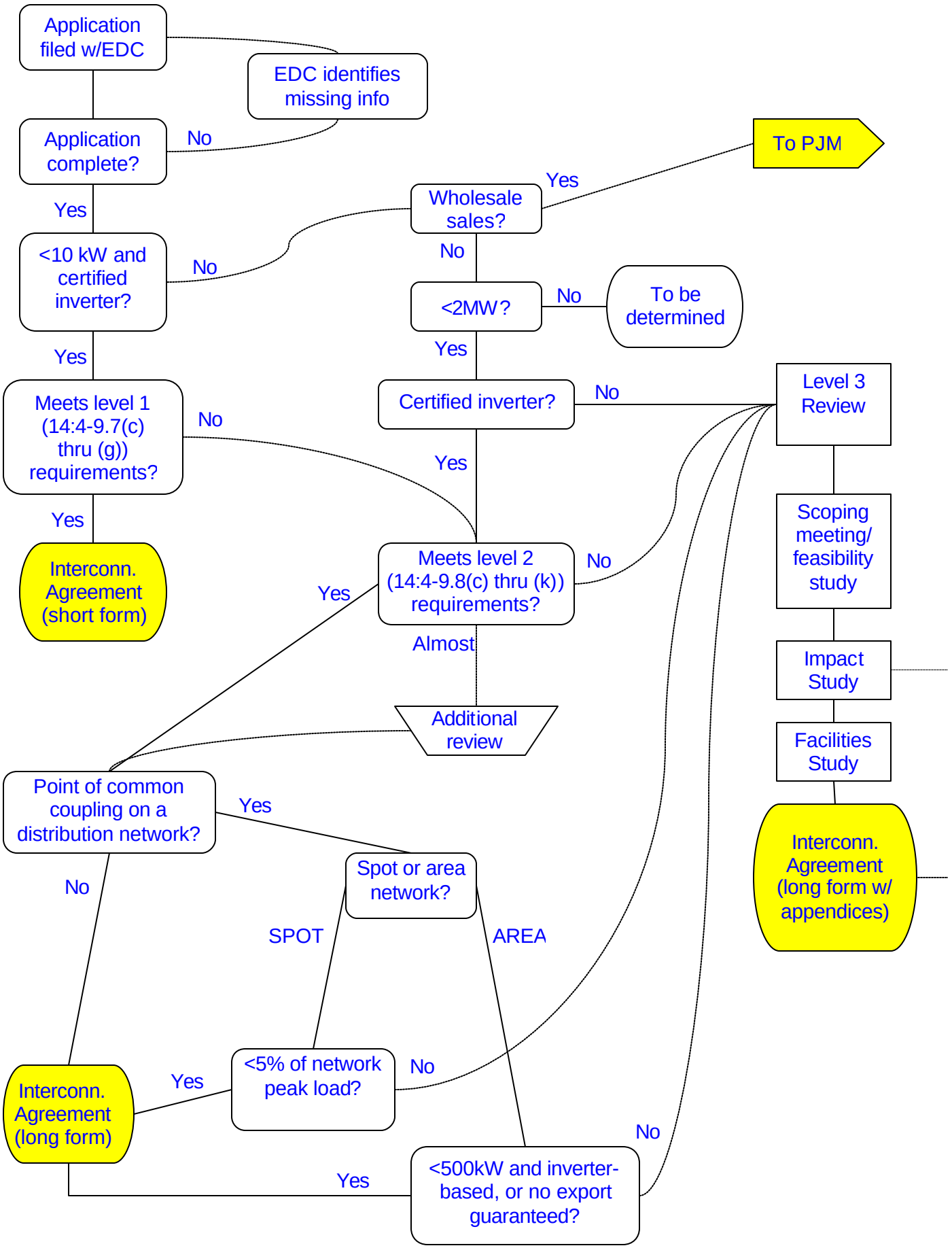
Illustration of Interconnection Review Process Under N.J.A.C. 14:4-9.5 - 9.9



17. COMMENT: Currently, the life-cycle costs of all Class I renewable energy resources are greater than the costs of new conventional generation. That is why an array of policies to promote the continued development of renewable resources has been put in place in New Jersey. Policymakers and the public have judged that some near-term economic costs can be borne in order to gain the environmental benefits of renewable resources, and to encourage their continued commercialization. It is hoped that with commercialization, the price premium of renewables relative to conventional non-renewable generation will continue to decline. The major renewable energy incentives of the Clean Energy Program and the Renewable Portfolio Standard, supplemented by other policies and programs including net metering, support the development of renewable energy. With this array of policies and programs already in place, the first question is whether the great expansion of net metering is desirable. We discuss possible benefits first. There are distinct advantages to increasing the size limit for net metering. Larger institutional and commercial facilities would be able to participate than are able to now. Net metering allows facilities with fluctuating loads to obtain credit for their own renewable energy generation during periods when its generation exceeds their actual requirements. Educational institutions are an example of this. They usually have lower electric loads in summer, just when generation from photovoltaic cells is at its highest level. Under a net metering program, an educational institution can get the same type of retail rate savings as are available to another type of facility that does have summer and weekend loads that can be offset by that facility's own renewable generation. Increasing the net metering limit from 100 to 2000 kW expands twenty- fold the total amount of renewable generation potentially available to a facility with fluctuating loads. This potentially far greater benefit may create a much larger incentive for larger educational institutions and other fluctuating- load facilities to install a net metering system. We believe that if the rule specifies that the amount of customer generation capacity that qualifies for net metering cannot exceed 125 percent of the customer facility's peak needs, the incremental impact of expanding net metering is not likely to be substantial, at least not over the next several years. During this short-term period, it is likely that the aggregate volume of Class I renewable resources facilities installed will be determined by the major incentives embodied in the Clean Energy Program and the Renewable Portfolio Standard, whether or not net metering is expanded. The most likely effect of expanded net metering is that more facilities with significantly fluctuating loads may find installation of renewable facilities on their premises attractive. The host-facility market for renewable energy resources will thus be broadened. A larger range of types of facilities will gain experience with on-site renewable energy systems. The benefit, if it materializes, is a qualitative one. The quantitative benefits -- and thus the quantitative consumer costs -- are not likely to be significant in the short term. Based on the advantages cited above, the net metering limit should be increased to 2000 kW as proposed. This recommendation assumes that customer generation capacity is limited to 125 percent of the facility's peak electrical needs. Absent this limit, net metering should not be expanded at this time. (RPA)

RESPONSE: The Board acknowledges this comment in support of the rules and commends the RPA for their thoughtful review of the Board's proposal. Regarding limiting the size of a customer-generator facility, please see the response to comment 24 below.

18. COMMENT: Renewable energy, especially wind power, can make a significant contribution in meeting our nation's and New Jersey's energy needs, in diversifying our fuel resources and electric portfolio, in promoting economic development and in improving environmental quality. These rules and the Board's recent more aggressive targets for its renewable portfolio standards (RPS) program show that New Jersey recognizes that renewable energy is an essential component of a viable economic and environmental strategy for the 21st century. The technology for wind power production continues to improve. Small scale wind projects up to 2 megawatts are possible. The barriers are less technical than economic. Net metering can be an important tool for addressing these economic barriers, and is especially useful as a policy tool for intermittent renewable technologies such as wind. By allowing an electric customer to "bank" unused electricity, net metering affords customers more flexibility to size a facility to match its average energy use and/or long term energy consumption. Net metering allows a customer-generator to maximize the value of its generation, thereby encouraging private investments in renewable energy resources. (AWP)
RESPONSE: The Board appreciates this comment in support of the rules.

SUBCHAPTER 9 NET METERING AND INTERCONNECTION STANDARDS FOR CLASS I RENEWABLE ENERGY SYSTEMS

14:4-9.2 Definitions

19. COMMENT: The definition of "annualized period" should be revised to conform with the state's renewable energy portfolio standards, basic generation service procurement period and the PJM planning year. Pursuant to the Net Metering Standards, each supplier/provider will be required to compensate the customer-generator, at the end of each annualized period, for any excess kilowatt hours generated. In addition, the Net Metering Standards require each supplier/provider or EDC to submit an annual net metering report to the Board by October 31st of each year. Under the Board's recently proposed Renewable Energy Portfolio Standards, a "reporting year" is the 12-month period from June 1st through May 31st. The PJM planning year is the same. BGS periods synchronize with the PJM planning year. The "annualized period" under the Net Metering Standards should be defined in the same manner and should align with the PJM planning year. Although an individual customer-generator's first payment in compensation for any excess kilowatt hours generated will not be for a full year-long period (unless net metering began for that customer on June 1st), the EDC will be able to compensate all customer-generators for excess kilowatt hours at the same time each year. In addition, the net metering and renewable portfolio standards compliance reporting would be based on a standard annualized period. For ease of administration, and consistency between the various reporting requirements and REC trading

programs, we therefore urge the Board to define the "annualized period" as "the 12-month period from June 1st through May 31st". (JCP&L)

RESPONSE: The annualized period was chosen to make it as simple as possible for customer-generators, EDCs, and the Board to calculate net generation for a given customer-generator facility. If the annualized period were aligned with the RPS reporting year, each customer-generator would have to start net metering with a portion of an annualized period, and then change to full 12-month annualized periods starting on the June 1st following the start of net metering. The Board does not believe that this added complexity is justified. The primary link between the net metering program and the RPS lies in the fact that a customer-generator may wish to apply for issuance of renewable energy certificates (RECs) under the RPS rules, and the RECs may be sold or traded for use in complying with the RPS rules. However, a customer-generator may apply for a REC at any time, and issuance of a REC is not related to the customer-generator's annualized period. Therefore, the commenter's suggested change has not been made.

20. COMMENT: For "Electric distribution system," the last sentence should be deleted. The Federal Energy Regulatory Commission has rejected the use of a bright line test whereby facilities above a certain voltage would be considered transmission and facilities below such voltage would be considered distribution. Instead, such determinations must be made on a case-by-case basis. (RECO)

RESPONSE: While the Federal Energy Regulatory Commission (FERC) did in the past set forth a seven factor test for defining "distribution," it has since modified that test in both Order 2003 (104 FERC ¶ 61,103) and in the Notice of Proposed Rulemaking on the Standardization of Small Generator Interconnection Agreements and Procedures (104 FERC ¶ 61,104). In the latter proposed rulemaking, the FERC screening procedures for interconnection distinguished between interconnections to a line with a capacity above 69 kV and those to a line with a capacity below 69 kV. Based on this knowledge and experience, the Board believes the FERC is likely to take jurisdiction over any interconnections to lines 69 kV and above, leaving the Board's jurisdiction over interconnection to the lower voltage lines. Because this issue has not been fully resolved at the FERC level, the last sentence of the Board's definition is not intended to create a bright line test. Rather, the Board believes that the definition as adopted provides guidance while allowing for exceptions to be considered on a case-by-case basis.

21. COMMENT: At present, eligibility for new net metering is restricted to wind and solar photovoltaic systems. The proposed amendment would extend eligibility to all Class I systems. According to N.J.A.C. 14:4-8.2, "Class I renewable energy" means "electric energy produced from solar technologies, photovoltaic technologies, wind energy, fuel cells, geothermal technologies, wave or tidal action, and methane gas from landfills or a biomass facility, provided that the biomass is cultivated and harvested in a sustainable manner." The broadening of eligibility to all kinds of Class I technologies is generally reasonable. However, in the case of fuel cells, one restriction should be inserted. The Board has decided that fuel cells that use natural gas as a feedstock to not qualify for support through the Clean Energy Program. The Board also decided that natural gas fuel cells do not qualify as Class

I renewable resources for purposes of the Renewable Portfolio Standard. Consistency requires that natural gas fuel cells also not be eligible for net metering. As the Board has observed, they are not renewable resources. (RPA)

RESPONSE: The Board acknowledges this comment in support of the rules. Under N.J.A.C. 14:4-9.3(a), only class I renewable energy generators are eligible for net metering. The definition of class I renewable energy excludes fuel cells powered by natural gas, although a fuel cell powered by another source which meets the requirements for class I renewable energy would be eligible for net metering.

22. COMMENT: For "Point of common coupling," the reference should be to IEEE 519. (RECO)

RESPONSE: The definition of "point of common coupling" refers to the IEEE definition of the term in IEEE 1547, under definitions section 3.1.17.

23. COMMENT: We support the definition of *'small commercial customer'* in the proposed rule. In the past, there have been disagreements with EDCs regarding which rate classes are eligible for net metering. The definition clarifies that it is the peak demand of the customer, not an assigned rate class, that determines if non-residential customers qualify for net metered status. (PVNOW)

RESPONSE: The Board appreciates this comment in support of the rules.

24. COMMENT: The proposed definition at N.J.A.C. 14:4-9.2 of "small commercial customer" as "a non-residential customer with less than 10 MW of peak demand" is not defendable. A customer with a 10 MW peak demand is a large commercial or industrial customer. Our few customers with a peak demand of 10 MW or greater are among the largest retail commercial and industrial customers within our service territory. (One commenter noted that it has only 10 to 12 such customers in its service area, another that it has fewer than 100 such customers.) For example, a 2 MW medium/high efficiency solar facility would require approximately 200,000 square feet or 4.6 acres, and produce over 200 times more power per year than an individual average homeowner in New Jersey consumes. Likewise, a 1.5 MW wind turbine would be 300 feet high, with a rotor diameter of 231 feet, and would produce enough electricity to power approximately 438 homes annually. Facilities of such size and scope are clearly not what the Legislature intended when it allowed net metering for residential and small commercial customers. Furthermore, we have absolutely no residential customer-generators who could accommodate a system that large. The Board has far exceeded the scope – and, indeed, the needs – of the "residential or small commercial customer" population within our service territory. A "small commercial customer" using industry standards would more realistically have a maximum peak demand of 150 kW. We urge the Board to revise the proposed definition of a "small commercial customer" to mean "a non-residential electrical customer with up to 150 kW of peak demand, as determined by the most recently measured annual peak demand on the customer's demand meter, or by the peak load contribution for the customer as submitted by the EDC to the PJM RTO for load planning purposes". Moreover, it is unclear why the

definition of small commercial customer proposes a 10 MW cap, while the rule itself proposes a 2 MW cap on net metering. (PSE&G) (JCP&L)

RESPONSE: The definition of small commercial customer is not intended to result in customer-generator facilities that generate 10 megawatts of power. It is a limit on the class of commercial customers who may net meter, even though their generator size is limited to 2 MW. The purpose of the 10MW limit for customer peak load is simply to provide some upper limit the size of commercial customers that may participate in net metering, in order to carry out EDECA's mandate that net metering be offered to small commercial customers. The difference between the 2 megawatt limit at N.J.A.C. 14:4-9.3(a) and the 10 megawatt limit in the definition of small commercial customer is that N.J.A.C. 14:4-9.3(a) sets a cap on the *generating capacity of the customer-generator facility*, while the definition of "small commercial customer" sets a cap on the *peak demand of the customer-generator's premises* (that is, the customer's highest one-time energy usage during a certain time period – typically a year). The first is a measure of the capacity the customer may potentially supply to the electric distribution system, while the second is a measure of the customer-generator's maximum consumption (over a limited period) that the customer may draw from the electric distribution system. (A customer's average electricity consumption in almost all cases is significantly less than the customer's peak load.) Both limits apply to a small commercial customer. Therefore, a non-residential customer may net meter only if its customer-generator facility has a capacity no greater than 2 megawatts, *and* its peak demand for electricity is no greater than 10 megawatts. In the previous net metering rules, the only limits on the generating capacity of a customer-generator facility were the 100 kw limit, and a requirement that the capacity not exceed the customer's peak demand (see the previous rules at N.J.A.C. 14:4-9.3(g)). The rules are not intended to encourage a customer-generator to install a facility with enough capacity to meet its peak demand, but rather with capacity to meet its average electricity needs. To this end, the rules have been clarified at N.J.A.C. 14:4-9.3(a) to retain a restriction in the existing rules that limits the size of a customer-generator facility to the customer-generator's existing peak demand. With net metering, if a customer-generator's peak demand exceeds its generating capacity, the excess demand will be served by the EDC. The Board agrees with the commenter that a small commercial facility with a peak demand of 10 megawatts would be significantly larger than a typical residential customer-generator facility, and indeed it would be surprising if commercial facilities did not generally have higher electricity needs than residences. That is why the Board set a peak demand limit for a commercial customer to qualify as "small" in order to be eligible for net metering. With respect to the suggestion to use "industry standards" to determine the size of a small commercial customer, the Board's experience indicates that there is no established industry standard on this issue. Therefore, the Board has reviewed available literature and laws in other states to arrive at the 10 megawatt peak demand limit.

14:4-9.3 Net metering general provisions

25. COMMENT: We support the increase in the maximum size of the customer-generator's facility from 100 KW to 2 MW. This increase is reasonable, will promote the achievement of the Board's public policy goals and will not create any significant burden on the electric grid, the EDC's or electric supplier/providers in the State. (PVNOW) (AWP)
RESPONSE: The Board appreciates this comment in support of the rules.

26. COMMENT: The proposal to expand net metering to generation units up to 2 MW (and in excess of the customer's peak load) is problematic. Allowing entities to install generating units many times larger than their individual peak load and sell the excess energy to EDCs is not consistent with EDECA. Generation units approaching 2 MW are additions to wholesale supply, regardless of whether the point of interconnection is the interstate transmission line or the local distribution system. Unlike PJM, which has carefully crafted and generally respected procedures governing the interconnection of wholesale supply, the BPU has failed to address issues of system stability, safety, and cost in this DG interconnection proposal. Projects of such scope should go through the well-established FERC-approved PJM interconnection procedures, and not be allowed to bypass PJM's rules. (PSE&G)
RESPONSE: Please see the response to comment 32 below.

27. COMMENT: The proposal to raise the limit for net metering from the current limit of 100 kW (and not in excess of the customer's peak load) to 2 MW (based on the size of the net metered generator regardless of the customer's peak load) is contrary to both the intent and language of EDECA. EDECA states that the Board shall offer net metering to residential and small commercial customers. [N.J.S.A. 48:3-87(e)(1)] There is no stated or implied legislative intent to allow the Board to expand net metering to large commercial or industrial customers. With proper sizing limitations taken into account, the maximum allowable customer generator facility size should be 150 kW. (PSE&G)
RESPONSE: Please see the response to comment 32 below.

28. COMMENT: Under net metering, qualifying customer generators that are connected to the electric grid are credited by their EDC at their own total retail rate for electricity they generate, up to the total amount of electricity consumed by the customer facility. If they generate more than their own annual requirements, the excess is credited only at the power supplier's avoided cost of wholesale power. The utilities propose that Section 14:4-9.3 of the rule, dealing with general provisions for net metering, should specify that the capacity of a customer generating facility cannot exceed 125 percent of that customer's peak electric needs. This limitation should be incorporated into the rule, as the purpose of net metering is to foster self-generation, not power production for the grid. (RPA)
RESPONSE: Please see the response to comment 32 below.

29. COMMENT: Presently, generators of up to 100 kW capacity are eligible for net metering. The proposed amendments would increase that limit to 2000 kW of generating capacity. This is a dramatic increase. Most states have developed net metering provisions to encourage on-site renewable resource development; however, California, with a 1000 kW capacity eligibility limit, is currently the state with the highest capacity eligibility limit. The 2000 kW capacity eligibility limit would be the highest in the nation. (RPA)
RESPONSE: Please see the response to comment 32 below.

30. COMMENT: Existing N.J.A.C. 14:4-9.3(g), which is proposed for deletion, states that "Customer-generators will be eligible for net metering up to a maximum allowable capacity per customer-generator of, but not to exceed the current peak electric needs of its own residential or small commercial facility." It is inappropriate for the Board to allow customers to install generators for net metering purposes that exceed their own peak load. Moreover, the deletion of this subsection is aggravated by the Board's proposed new N.J.A.C. 14:4-9.3(d) and (e), which would require the EDC or supplier/provider to pay the customer-generator for excess annual generation. We recommend the Board retain the current N.J.A.C. 14:4-9.3(g). (PSE&G) (RECO)
RESPONSE: Please see the response to comment 32 below.

31. COMMENT: In proposed new N.J.A.C. 14:4-9.3(c), (d), and (e), the Board proposes that the EDC be required to "roll-over" any excess net metering credits (for customer-generation that exceeds the customer's electric usage in a month) for crediting on the next month's bill. Then, at the end of the annualized period, the EDC would be required to pay the customer for any excess kWhs generated at the "avoided cost of wholesale power." Allowing a net metering customer to install on-site generation that exceeds its peak demand is contrary to the intent and purpose of EDECA. This problem is exacerbated by the proposed extension of the net metering limit from 100 kW to 2 MW. These factors, combined with the proposed N.J.A.C. 14:4-9.3(c) through (e) provisions, essentially create a wholesale "must-buy" obligation on EDCs and supplier/providers. The Board lacks legal authority to compel EDCs or supplier/providers to make wholesale electric purchases from suppliers; FERC has exclusive jurisdiction over wholesale power sales. Accordingly, we request that the Board eliminate proposed N.J.A.C. 14:4-9.3(c), (d), and (e) in their entirety. In addition, the Board should continue the current rule limiting the size of net metered customer generation to the customer's peak demand. (PSE&G)
RESPONSE: Please see the response to comment 32 below.

32. COMMENT: The Interstate Renewable Energy Council's ("IREC") model net metering policy, which the Board relied on in part for its draft proposal, provides for a 25 kW limit for residential customer-generators and a 1000 kW limit for all others. The current 100 kW limit is based on the customer's peak demand, while the 2 MW proposal would be based on the size of the customer's generating unit. While the proposed amendment is unclear relative to the installation of system output

capacity relative to customer load and/or usage, it would apparently allow a customer to install a generating unit with a capacity that far exceeds its own peak load. The goal of net metering is to allow customers to offset their own load with on-site generating equipment, not to allow small customers to install large generating units on their property and become wholesale suppliers, or to "bank" low-value off-peak generation in order to offset its expensive on-peak needs through the net metering process. In setting the maximum size for a customer-generator facility, existing ANSI/IEEE Standards should be consulted. ANSI/IEEE Std. 242 defines the protection schemes based on machine sizes. Small is defined as 1000 kVA maximum up to 600 volts and 500 kVA above 600 volts. It should be noted that a larger generating facility of the Class I type could and would probably utilize rotating equipment. This could impact other local customers in the immediate area with regards to short circuit duties, voltage regulation and power factor correction. The Board should modify this part of the proposal to limit net metering to 150 kW inverter based systems that do not exceed the customer's peak load. (PSE&G) (CPD) (RECO)

RESPONSE: The goal of net metering has always been to enable a customer-generator to serve its own load, not to allow customer-generators to oversize facilities or to become wholesale suppliers. This has been a basic tenet of the net metering program since its inception. While the Board believes that the increase in allowable size of customer-generator facilities is important and beneficial, it was not intended to change this basic premise of the net metering program. If the net metering program were to allow oversizing or wholesaling, a customer-generator would be acting as an electricity supplier and thus would be subject to licensing and other requirements that apply to suppliers. To clarify this point, the rules at N.J.A.C. 14:4-9.3(a) have been modified upon adoption to emphasize that a customer-generator facility shall be sized to meet the customer-generator's peak electric needs. Indeed, there would be no economic benefit for a customer-generator to install an oversized system. The cost of such a system would far exceed the amount the customer-generator would receive as payment for energy generated. Furthermore, such a system would not qualify for the Board's Clean Energy Program incentives. While the commenter is correct that the Board consulted the IREC model in developing its net metering rule, the Board also reviewed many other documents, including the Federal Energy Regulatory Commission's anticipated notice of proposed rulemaking (ANOPR) consensus filing; model interconnection procedures and agreements developed by the National Association of Regulatory Commissioners (NARUC); the consensus tariff filed in an interconnection proceeding in Massachusetts, and interconnection rules recently adopted in other states. In addition, the Board has undertaken an extensive review of the types of customer-generator facilities that would be authorized to net meter under the 2 megawatt limit. The Board believes that the 2 megawatt limit implements the intent of EDECA to encourage distributed renewable energy generation, while the rules' other limits ensure that safety and reliability will not be compromised. Regarding the issue of rotating equipment, please see the response to comment 72 below. Regarding the use of ANSI/IEEE standards, the Board does not believe that the ANSI/IEEE Standard for machine

size is an appropriate standard for classifying customer-generator facilities for the purpose of these rules. These standards merely set forth appropriate technical requirements that should be met when using various sizes of customer-generator facility. They do not provide guidance regarding the appropriate maximum size for such facilities. Regarding the suggestion to delete N.J.A.C. 14:4-9.3(c), (d), and (e) from the rules, these requirements are all taken directly from EDECA and so have not been deleted.

33. COMMENT: Currently, photovoltaic and wind power systems are eligible for net metering in New Jersey. The proposed amendments would expand eligibility to all Class I renewable resources. Even if this expansion is accomplished, it is likely that the main renewable resources taking advantage of net metering will be photovoltaic systems, distantly followed by wind power. These two technologies are fluctuating resources, in that their generation patterns are driven by the sun and the wind, respectively. Net metering provides a helpful incentive for such technologies, because whenever they can operate they will create a retail rate credit for the host facility, whether or not the host facility can use all the power at its particular time of generation. (RPA)
RESPONSE: The Board appreciates this comment in support of the rules.

34. COMMENT: EDECA states that the Board shall offer net metering, using wind or solar photovoltaic systems. . . There is no stated or implied legislative intent to allow the Board to expand net metering to all Class I renewable technologies. The legislative purpose of limiting net metering to small customers with wind or solar photovoltaic generators is clear – it is to provide an incentive for smaller customers to install renewable, inverter-based generators. Smaller, inverter-based generators pose significantly fewer technical and reliability concerns on the utilities' distribution system. In contrast, the proposed increase in both size and eligible technologies would make generators utilizing rotating equipment qualify for net metering (e.g., landfill gas fired internal combustion engines or gas turbines). These larger, synchronous generators pose a much greater potential for reliability and safety impacts to the grid, including the potential for overloading distribution system equipment. (PSE&G) (CPD)
RESPONSE: The Board has broad authority to supervise and regulate the property, equipment, facilities, rates and tariffs of all public utilities. Moreover, EDECA authorized the Board "to approve alternate forms of regulation in order to address changes in technology and the structure of the electric power and gas industries; to modify the regulation of competitive services; and to promote economic development" in pursuit of the State's broad policy initiatives to diversify electric power and ensure the continuation of energy efficiency and load management practices within the State. N.J.S.A. 48:3-50(a). Hence, the Board does not agree that the reference to wind or solar photovoltaic systems in the net-metering provision of EDECA was meant as a limitation. Rather, it should be read to serve as an illustration of the technology the Board was expected to consider in its implementation of the State's new and innovative legislation. To that end, the Board has exercised its discretion to open the net metering benefits to all Class I

renewable technologies and has carefully designed the interconnection requirements to ensure that the review process will address any and all safety issues.

35. COMMENT: Proposed N.J.A.C. 14:4-9.3(b) states that "The Board shall adopt a standard tariff providing for net metering …" We do not object to a standard tariff for net metering; however, the tariff should be developed collaboratively by the electric distribution companies ("EDCs") and the suppliers, subject to review and Board approval. (RECO)
RESPONSE: Standard Board tariff development procedures, which include collaboration with EDCs and suppliers, will be used.

36. COMMENT: In order to ensure that the rule is clear regarding the obligation of the EDC's to develop a net metering tariff quickly, we recommend the following clarifying language be added to the text: "The EDC shall develop a tariff providing for net metering and submit such tariff to the Board for approval within 60 days of adoption of these rules. Each supplier/provider and EDC shall make net metering available to eligible customer-generators on a first-come, first-served basis." (PVNOW)
RESPONSE: The Board agrees that a tariff should be developed quickly, and will work with the EDCs to ensure timely tariff development. However, the Board is confident that this can be done without putting a specific deadline in the rules.

37. COMMENT: The proposal would delete existing N.J.A.C. 14:4-9.3(e). This provision, which merely restates a provision of the Electric Discount and Energy Competition Act ("EDECA"), N.J.S.A. 48:3-49 et seq., that requires the Board to review the continuation of net metering when the total generating capacity of net-metering customers equals 0.1 percent of the State's peak electricity demand or the annual aggregate financial impact to electric power suppliers and basic generation service providers Statewide, as determined by the Board, exceeds $2,000,000, whichever occurs first. This provision of EDECA remains in full force and effect and the Board should not repeal the corresponding regulation. (RECO) (PSE&G)
RESPONSE: The Board agrees that the provision remains in full force and effect under the statute. Therefore, there is no need to repeat the provision in the rule.

38. COMMENT: The Board should eliminate the requirement at N.J.A.C. 14:4-9.3(g)4 that the EDCs and suppliers/providers annually report the "total estimated amount of energy produced by the customer-generators". Since no installation will be submetered beyond the EDC meter, the amount of energy produced by the customer-generators will not be measured by either the EDC or the supplier/provider. Therefore, neither the EDC nor the supplier/provider will possess sufficient metered data to enable them to provide an accurate estimate of actual production. At best, the total estimated amount of energy produced by customer-generators during the annualized period could only be based upon

estimating protocols that rely on data provided by the customer-generators in their interconnection applications, which itself will only be an estimate of predicted output. (JCP&L)

RESPONSE: The Board understands that the information required by N.J.A.C. 14:4-9.3(g) will often be based on estimates rather than actual measurements, and the rules allow this at N.J.A.C. 14:4-9.3(g)4. However, the Board believes that even estimates will provide invaluable in helping the Board to assess the effectiveness of the net metering program. Therefore, the commenter's suggested change has not been made.

39. COMMENT: If the requirement at N.J.A.C. 14:4-9.3(g)4 is not deleted, we request that the Board clarify the methodology by which the EDCs and suppliers/providers will be required to calculate the "total estimated amount of energy produced by the customer-generators", so as to at least ensure that these estimates will be calculated using standard and uniform engineering estimates to produce a consistent report among all reporting parties. We suggest the following language:

(g) Each supplier/provider or EDC shall submit an annual net metering report to the Board. The report shall be submitted by [October 31st] June 30th of each year, and shall include the following information for the one-year period ending [September 30th] May 31st of that year:

. . .

4. The total estimated amount of energy produced by the customer-generators, which shall be calculated using Board-approved protocols applied to data submitted in the customer-generator's final interconnection application. (JCP&L)

RESPONSE: N.J.A.C. 14:4-9.3(g) has been modified upon adoption to align the net metering reporting deadline with that of the RPS program, for ease of administration by the EDCs. In addition, the Board agrees that the estimates of customer-generator production should be as consistent as possible and has modified N.J.A.C. 14:4-9.3(g)4 upon adoption to require that estimates be calculated according to Board-approved protocols. While it is unlikely that the protocols will rely on data other than that included in the submitted application, there may be unusual situations in which other data are necessary, so the final phrase in the commenter's suggested language has not been included in the rules.

40. COMMENT: We oppose the provision at N.J.A.C. 14:4-9.3(h) to allow the customer-generator to "own" the renewable attributes of the electricity it generates. Since the EDC or supplier is purchasing the generation output at retail rates (through the net metering tariff), equity dictates that the purchaser also receive the renewable attributes of the electricity. Nonetheless, we recognize the economic development motivation for this provision, and are confident that through a continued collaborative process, the Board and stakeholders could reach a compromise position on this issue. (RECO) (PSE&G) (JCP&L)

RESPONSE: N.J.A.C. 14:3-9.3(h) has been modified upon adoption to clarify that it applies only prospectively, and to clarify that the Board is not attempting to

abrogate the terms of contractual arrangements that assign ownership of attributes. The Board is currently conducting a proceeding to examine the issue of attribute ownership under certain contracts executed prior to the introduction of the concept of attributes and RECs. Further, the net metering rules are intended to minimize the amount of generation purchased by the EDC. Under the rules, the EDC must compensate the customer-generator only for the excess energy generated, and the net metering program and rules are designed to minimize the amount of this excess. Therefore, the EDC will compensate the customer-generator for only a small portion of its total energy output. The value of the renewable attributes of a customer-generator's energy could be substantial for the types of small customer-generators covered by the rule, so that the potential for the sale of attributes is often a factor in a customer's decision to install a renewable energy generator. It would be contrary to the goals of net metering for the customer-generator, who pays for the purchase, installation, operation and maintenance of the generating facility, to be deprived of the attributes stemming from the energy generated by the facility, merely because the EDC compensates the customer-generator for a small portion of that energy. Furthermore, net metering is an important mechanism for facilitating efficient utilization of renewable distributed resources.

41. COMMENT: We agree that the customer-generator should own the renewable attributes of the electricity it generates. In order to provide flexibility, we suggest the following addition to the text of this section: …"Once the PJM's Generation Attribute Tracking System (GATS) or an equivalent system as approved by the Board is operational, a customer-generator may apply to PJM or its designee for issuance of class I renewable energy RECs. If RECs are issued, the customer-generator may itself trade or sell the RECs, or may trade or sell the RECs through an aggregator, or through a trading program authorized by the Board." (PVNOW)
RESPONSE: The Board agrees that the rule should provide flexibility in case the GATS system does not materialize in a timely manner, and therefore the rules have been modified at N.J.A.C. 14:4-9.3(i) (proposed at N.J.A.C. 14:3-9.3(h)) to meet the commenter's concerns. The Board has also included similar language in recently proposed amendments to its Renewable Portfolio Standards (RPS) rules, N.J.A.C. 14:4-8. These proposed amendments can be found at 36 NJR 1892.

42. COMMENT: We urge the Board to delete the phrase "except that a supplier/provider or EDC may use a special load profile for the customer-generator, which incorporates the customer-generator's real time generation, provided the special load profile is approved by the Board", at the end of N.J.A.C. 14:4-9.3(i). The intent of the Board and the language in EDECA to provide net metering at non-discriminatory rates will be contravened if a supplier/provider or EDC is allowed to establish a separate load profile for a net metered customer. General principles of establishing rates based on an average load profile over an entire class of similar customers will be violated by this approach. For example, the existing PSE&G residential tariff (RS) requires residential customer generators to pay a monthly minimum demand charge. No other RS customers are forced to pay such a charge. Its imposition is clearly discriminatory toward all customer generators,

including those potentially covered by net metering tariffs. If PSE&G or other EDCs were to take the position that such a charge should be levied on all customer generators in the future, they could easily do so by creating a singular load profile and filing with the Board. It would be up to the customer generator, no matter how small a customer, to contest the load profile thus created. The EDCs have relatively unlimited financial and technical resources to develop and present their case at the Board; smaller customers do not. The net effect will be to discourage customers from installing renewable generators. The rule should prohibit EDCs from assessing standby charges, minimum demand charges or the like on eligible customer-generators unless similar standby charges are assessed across the entire rate class. Customer generators should be treated the same as retail customers without generation, as is done in California. (PVNOW)

RESPONSE: Load profiles are a common tool that EDCs use to classify ratepayers for tariff purposes and it would be inappropriate for the Board to institute a blanket prohibition against a load profile for customer-generators. However, all load profiles must be approved by the Board, which will ensure that customer-generators are treated fairly. Regarding standby charges and other fees, N.J.A.C. 14:4-9.3(j), as proposed and adopted, specifically prohibits fees on customer-generators that are not imposed on all customers of a similar rate class.

43. COMMENT: We object to the sentence in proposed N.J.A.C. 14:4-9.3(j) that specifies that "a supplier or EDC shall not charge a customer-generator any fee or charges; or require additional equipment, insurance or any other requirement . . . " First, this language conflicts with the provisions of the proposed interconnection rules that allow certain charges to be assessed against customer-generators. Second, to the extent an EDC or supplier is required to expend employee time and other resources in connection with either a net metering or interconnection application, it should be entitled to recover such costs from the party that is requesting the service or from SBC funds. Customer-generators have an inherently different risk profile so it may be appropriate to charge them fees, require additional equipment and require insurance commensurate with that risk profile. Through a continued stakeholder process, we believe consensus could be reached on reasonable limits on such cost recovery from customer-generators. (RECO) (PSE&G)

RESPONSE: To resolve the contradiction identified by the commenter, N.J.A.C. 14:4-9.3(j) has been modified upon adoption to clarify that an EDC may levy fees or charges on customer-generators if the fee or charge is specifically authorized under this subchapter. Regarding EDC recovery of net metering or interconnection costs, please see the responses to comments on the fee provisions at N.J.A.C. 14:4-9.10.

44. COMMENT: We support the intention of this section to prevent the addition of arbitrary requirements by supplier/providers or EDC's that could serve as a barrier to the implementation of these rules. (PVNOW)

RESPONSE: The Board acknowledges this comment in support of the rule.

14:4-9.5 General interconnection provisions

45. COMMENT: We recommend that a new subsection be added to N.J.A.C. 14:4-9.5, to define clearly the necessary testing requirements, both during and after commissioning. The testing requirements also should include the required documentation including certified test reports. (RECO)
RESPONSE: The requirements for testing are specified in IEEE standards, which are incorporated by reference in the rules. Repeating these requirements in the rules would be redundant and would require cumbersome rule changes in the event of updates or changes to the requirements. Therefore, the commenter's suggested change has not been made.

46. COMMENT: Proposed N.J.A.C. 14:4-9.5(a) specifies three procedures (i.e., Simplified, Expedited, and Standard). The maximum capacity of any customer-sited generator appears to be 2 MW. We request that the Board clarify this in the Proposed Rules, since there is no clear statement of the maximum size limit, other than the cap on net metering generators. (RECO) (PSE&G)
RESPONSE: N.J.A.C. 14:4-9.3(a) states that net metering is available "provided that the generating capacity of the customer-generator's facility does not exceed 2 megawatts." N.J.A.C. 14:4-9.5(a) provides three interconnection review procedures, none of which applies to customer-generator facilities larger than two megawatts. The Board believes that this is sufficiently clear in conveying the two megawatt limit on net metering.

47. COMMENT: In the interest of clarification, we suggest renaming the three levels of review as Level One (Simplified), Level Two (Expedited) and Level Three (Standard). (PVNOW)
RESPONSE: The Board agrees and the rule has been modified upon adoption accordingly.

48. COMMENT: N.J.A.C. 14:4-9.5, which sets forth the general requirements for interconnection, should include the following underlined language:
2. Information regarding the type and specifications of the customer-generator facility, <u>including the proposed location of the disconnect switch</u>; (JCP&L)
RESPONSE: The rule does not require that a system have a disconnect switch, although an EDC may require a disconnect switch on a customer-generator facility that requires level 3 review. For those facilities, the EDC can request information on disconnect switches without the addition of the suggested phrase. For a discussion of the rule provisions regarding disconnect switches, please see the responses to comments on N.J.A.C. 14:4-9.11, below.

49. COMMENT: We support the intention of N.J.A.C. 14:4-9.5(b) to require each EDC to provide customer-generator applicants with the company contacts that will facilitate the interconnection process. In the past, there have been problems with intra company communications at certain EDCs. In a number of cases, the

interconnection decisions were made in field offices that never received relevant information from corporate headquarters where applications had been channeled. Given the time frames for application turnaround that this rule imposes, each EDC should be encouraged to designate more than one employee to coordinate the EDC's response. This provides flexibility in cases of employee absence, reassignment or vacation. We suggest that this section be modified as follows: "Each EDC shall designate an employee and an alternate or office from which an applicant can obtain basic application forms and information through an informal process. On request, this employee or office shall provide all relevant forms, documents, names and phone numbers of company engineering representatives and technical requirements for submittal of a complete application for interconnection review under this section." (PVNOW)

RESPONSE: The Board acknowledges this comment in support of the rules. N.J.A.C. 14:4-9.5(b) has been modified upon adoption to clarify that the EDC must provide an interconnection applicant with contact information for EDC officials involved in reviewing the application.

14:4-9.6 Certification of customer-generator facilities

50. COMMENT: Proposed N.J.A.C. 14:4-9.6(b) and (c) deal with certified equipment packages, which may qualify for simplified or expedited interconnection under the proposed rules. Missing from this proposal is a resolution of which entity certifies the equipment package. Here, the Board has proposed that it will do the certification. Does the Board intend to assume liability through the act of certification? Currently, in the FERC Small Generator NOPR, a nationally recognized testing laboratory ("NRTL") would certify equipment. Moreover the question of which "NRTLs" are qualified to do the actual testing, certification and listing must be resolved. Finally, the issue of who maintains a registry of this data (FERC, DOE, the states, all three?) needs to be resolved. We note that certification is slated to be explored by PJM in its DG working group. (RECO) (PSE&G)

RESPONSE: The Board will not certify equipment. As stated at N.J.A.C. 14:4-9.6(b), "An equipment package shall be considered certified for interconnected operation if it has been submitted by a manufacturer to a nationally recognized testing and certification laboratory, and has been tested and listed by the laboratory…" Thus, the testing and listing is in effect the certification necessary under the rule.

51. COMMENT: In addition to the standards referred to in N.J.A.C. 14:4-9.6(a)(1) and (2), we recommend that the Board include the IEEE Std. 929 for anti-islanding inverters, IEEE Std. 519-1992, IEEE Recommended Practices and Requirement for Harmonic Control in Electrical Power Systems, UL 1703 Standard of Safety for Flat-Plate Photovoltaic Modules and Panels, IEEE 1262-1995, IEEE Recommended Practice for Qualification of Photovoltaic (PV) Modules, and IEEE Standard 929-2000 Recommended Practice of Utility Interface of Photovoltaic (PV) Systems be added. In addition, applicable Standards should be cited for rotating equipment. (RECO) (PSE&G)

RESPONSE: Three of the standards the commenter suggests are already incorporated by reference in the rules. IEEE Standard 1547, which is specifically incorporated by reference in these rules, references both IEEE standard 929 and IEEE standard 519. Therefore, there is no need for a specific citation to these two standards. UL standard 1703 and IEEE 1262 are standards that apply to photovoltaic panels. While these standards are useful to manufacturers, the Board does not believe these standards are relevant in the context of these rules. Regarding UL 1703 (Standard of Safety for Flat-Plate Photovoltaic Modules and Panels), these rules apply primarily to inverters (in the case of a PV system). In some cases, an inverter may meet all of the required IEEE and UL standards for interconnected inverters without being UL listed, in which case the inverter would be eligible for level 3 interconnection review under these rules.

52. COMMENT: There appears to be confusion as to what a certified system actually means. Certified equipment only means that it is of a quality which can be used to interconnect to a utility system. However, depending on the results of the impact study, additional protection may be required (i.e., transfer trip relaying). This is especially true of the proposed systems up to 2 megawatts, which would likely utilize rotating machines with synchronous generators. A paragraph should be added to N.J.A.C. 14.4-9.6(f) stating that certified equipment still needs on site testing after installation. Certification means that the design of the equipment meets the standards for safe operation in parallel with a utility system. The on-site testing is to ensure the equipment was installed properly, is not defective, and was not damaged during delivery or installation. We recommend the following language be added to the section:

A certified equipment package does not mean that demonstration testing of its functions is not required after its installation. The EDC shall be invited to witness such demonstration testing, with at least five (5) business days notice of the testing date. (RECO) (PSE&G) (JCP&L)

RESPONSE: The commenter suggests that this change be made at N.J.A.C. 14:4-9.6, which addresses certification in general, because of the commenter's concerns with large customer-generator facilities and rotating equipment in particular. However, the EDC is already authorized to require post-installation commissioning tests for a customer-generator facility in the context of a level 2 or level 3 review, in accordance with EDC standards. See N.J.A.C. 14:4-9.8(q) and N.J.A.C. 14:4-9.9(e). Therefore, the only effect of the commenter's suggested change would be to allow the EDC to require post-installation testing under a level 1 review. However, the only customer-generator facilities eligible for level 1 review are those with a power rating of 10 kW or less. Therefore, the commenter's change would not affect large equipment. The intent of the requirement that equipment be certified in order to qualify for level 1 review was to prevent the kind of time-consuming onsite testing suggested by the commenter. By requiring the use of equipment of a type that has already been tested for compliance with recognized industry standards prior to its purchase and installation, the rules provide the safety assurances needed by the EDC without onsite testing. Should there be an unexpected problem that adversely affects safety or reliability, the EDC

may require the customer-generator to disconnect the facility until the problem is resolved, in accordance with N.J.A.C. 14:4-9.11(e) (proposed at 9.11(d)). Therefore, the suggested change has not been made.

14:4-9.7 Level 1 interconnection review

53. COMMENT: The title of N.J.A.C. 14:4-9.7 should be changed to be more descriptive of the facilities covered under the different sections. We suggest Interconnection review for inverter based facilities not to exceed 10 kW. (RECO) (PSE&G) (JCP&L)
RESPONSE: The Board has renamed the three levels of interconnection review for clarity. The level of review named "simplified" in the proposal is renamed upon adoption as "level 1." The level of review named "expedited" in the proposal is renamed upon adoption as "level 2." The level of review named "standard" in the proposal is renamed upon adoption as "level 3." The section headings have been modified to reflect this change.

54. COMMENT: The proposed rules do not contemplate a generator interconnection queue. While initially this may not pose a significant concern, if the number of interconnection requests increases following the rule adoption, disputes over the order of interconnection likely will arise. Moreover, the PJM Interconnection, L.L.C. ("PJM") currently maintains a queue for all generator interconnections in its region. Indeed, the FERC's Small Generator Interconnection NOPR calls for a single interconnection queue for each geographic region. Interconnection queues benefit both the utility and generator by clarifying the order of interconnection and helping to resolve disputes over who pays for necessary system upgrades or modifications. The Board should modify its proposal to include a generator interconnection queue, or specify that the PJM queue will apply to all non-net metering interconnections. (RECO) (PSE&G)
RESPONSE: The Board does not believe that a queue is warranted for level 1 interconnections, as these are so small that they are unlikely to cause problems on the electric distribution system, even if installed in significant numbers. For level 2 and level 3 interconnections, if an EDC believes an interconnection queue is warranted, the rule would allow such action. While the Board believes that EDCs will probably find it most efficient to process level 1 interconnection requests in chronological order, this is left to the discretion of the EDC. In addition, the rule does not prohibit an EDC from devising application and review procedures to streamline its interconnection reviews. For example, an EDC may choose to accept one interconnection application covering ten identical PV systems located at the same ten unit subdivision, thus saving time and effort for both the applicant and the EDC. If an EDC does choose to utilize a queue, however, this would not relieve the EDC from the obligation to meet the time limits in the rule for processing applications.

55. COMMENT: We support the technical limits proposed in N.J.A.C. 14:4-9.7(c) through (g) and throughout the document, as conservative values that provide

sufficient safety margins for the operation of distribution circuits in New Jersey. (PVNOW)

RESPONSE: The Board acknowledges this comment in support of the rules.

56. COMMENT: In proposed N.J.A.C. 14:4-9.7(e), there does not appear to be any technical basis for the higher (15% instead of 10%) threshold level for solar-based generation. (RECO) (PSE&G)

RESPONSE: N.J.A.C. 14:4-9.7(e) provides that, for a customer-generator facility to be connected to a radial distribution circuit, "the aggregate generation capacity connected to the circuit, including that of the customer-generator facility, shall not exceed 10% (15% for solar electric generation) of the circuit's total annual peak load…" This limit is designed to prevent overloading of the electric distribution system circuit. Since solar generation equipment puts out the most energy at periods when demand for energy is highest, overloading a circuit with energy coming from solar generation equipment is less likely than with other generators. Therefore, it is appropriate to allow a higher percentage for solar electric generation.

57. COMMENT: We propose that the Board add the following language at the end of N.J.A.C. 14:4-9.7(e):

> ". . . Nor shall it exceed 10% (15% for solar based generation) of a distribution circuit line section's design capacity, where a line section is defined as that section of the distribution circuit between sectionalizing devices or between voltage regulators and downstream sectionalizing devices.

This change is needed because voltage regulators installed beyond sectionalizing devices could experience reverse power during light load conditions, causing the regulator to either run to maximum raise, or lower and lockup, creating either high or low voltage to other customers on the line section. (RECO) (PSE&G)

RESPONSE: The Board is aware of concerns about voltage regulators. However, the Board believes that the voltage control requirements on generators, found in IEEE 1547 (and in standards referenced in IEEE 1547), are adequate to prevent the problems cited by the commenter. The New Jersey language tracks language in the FERC consensus document. FERC used the 15% figure, with added restriction on line segments (i.e., the maximum aggregate capacity of generators could not exceed 15% of the circuit peak load or 15% of the peak load on a line section). However, in the Massachusetts collaborative on interconnection, which came after the FERC consensus process, the collaborative members removed the line section limit in favor of a lower percentage threshold (7.5% in Massachusetts instead of the 15% used in the FERC consensus documents). The Board is applying the logic used by the Massachusetts collaborative to eliminate the line section language, and believes it has lowered the percentage sufficiently (from 15% to 10%) and that the lower overall number addresses the line section concern raised in the comment.

58. COMMENT: We propose that the Board eliminate the 15% limit for solar electric generation in N.J.A.C. 14:4-9.7(e) and keep all generators at the 10% limit. While the 15% limitation may work on most lines where the loading is highest during solar generation hours, many lines are least as heavily loaded during weekend solar hours. In addition, there is no simple way to allocate percentage split on a circuit handling both solar and non-solar generation. (RECO) (PSE&G) (JCP&L)
RESPONSE: The 15% limit is already very conservative and could realistically apply to all generation types (as it does in Texas). Under utility rules of thumb, the 15% limit provides over a 100% safety margin for worst case conditions. For non-solar generation, the Board has reduced this already-conservative limit even further to 10%, which increases the safety margin to over 300%. Because solar generators do not typically produce any power at times of minimum load (for example, on weekend nights), the effect of solar generators on maximum generator output during times of minimum circuit load is not a significant problem. Thus, the safety margin for solar generators can be somewhat more relaxed as compared to other generators. Regarding the issue of allocating percentage split on a circuit, this type of measurement was also required under the previous rules at N.J.A.C. 14:4-9.5(j), and requires no tracking or split allocation, merely a measure of total generation installed on a circuit. When that total reaches 10%, no additional non-solar generation may be added (unless the studies required for standard interconnection review are done). When the total reaches 15%, no additional generation of any kind (solar or non-solar) may be added unless the studies required for standard interconnection review are done.

59. COMMENT: We propose that the Board add the following language at the end of N.J.A.C. 14:4-9.7(h):

> The customer-generator or its agent shall notify the local EDC to arrange for interconnecting with the local electric distribution system. This should be done early in the process to avoid delays to the customer-generator in obtaining service to its facility. (RECO) (PSE&G) (JCP&L)

RESPONSE: The notice suggested by the applicant will be accomplished by the submittal of the interconnection application, required under N.J.A.C. 14:4-9.7(h). The Board agrees that early submittal of the application to the EDC will prevent delays to the customer-generator. However, it is the customer-generator's responsibility to decide when to file its application, and whether to take the risk that filing late in the process will cause delays.

60. COMMENT: Section 14:4-9.7 deals with a simplified procedure whereby small generators of up to 10 kW capacity can interconnect using a standardized agreement. The utilities have expressed concern with several of the specific provisions of the draft rule, and they submitted a revised draft before the final informal meeting on this matter. The utilities would add to paragraph (h) a requirement that the customer generator must provide timely notice of their intent to interconnect to the EDC. We agree with this suggestion. (RPA)
RESPONSE: As regards applicants that execute an interconnection agreement, the commenter's concern is addressed at N.J.A.C. 14:4-9.7(l), which requires that

an applicant provide the EDC with the anticipated start date for operation of the customer-generator facility, at the same time as the applicant returns the executed customer-generator agreement to the EDC, which must be at least five business days prior to starting operation. New N.J.A.C. 14:4-9.7(o) has been added upon adoption to clarify that applicants not subject to N.J.A.C. 14:4-9.7(l) must also notify the EDC of the anticipated start date at least five days prior to operation.

61. COMMENT: We support the timeframes for action in N.J.A.C. 14:4-9.7(i) through (n) and throughout the proposed rule and finds them to be reasonable and appropriate. (PVNOW)
RESPONSE: The Board acknowledges this comment in support of the rules.

62. COMMENT: We propose that N.J.A.C. 14:4-9.7(j) be revised as follows:
(j) Within twenty business days after the EDC notifies the applicant that the application is complete under (i) above, the EDC shall notify the applicant that:
1. The customer-generator facility meets all of the criteria at (c) through (g) above that apply to the facility, and the interconnection will be finally approved upon completion of the process set forth as follows:
   a. Completion of an EDC required inspection if required;
   b. Completion of an electrical inspection by the local code enforcement officer with jurisdiction over the interconnection;
   c. Completion of an installation inspection by the Board's installation inspector; and
   d. EDC's receipt and acceptance of an executed, fully completed interconnection agreement for ten kW or less, available from the EDC or at the Board's website at www.bpu.state.nj.us…; or
2. The customer-generator facility has failed to meet one or more of the applicable criteria at (c) through (g) above, and the interconnection application is denied. (RECO) (PSE&G) (JCP&L)

RESPONSE: The list of requirements suggested by the commenter includes requirements already found in the rules at N.J.A.C. 14:4-9.7(n) through (k), except for the additional requirement at the commenter's 1c. for a Board installation inspection. The Board intends to inspect installations of customer-generator facilities on an as needed basis, and does not intend to inspect every facility. Therefore, the suggested changes have not been made. Regarding the suggestion for a twenty day response time, please see the response to comment 65 below.

63. COMMENT: The net metering standards provide insufficient time for the EDC to review and respond to interconnection applications. The EDC Metering Standards allow the EDC three business days after receiving an application for "simplified" interconnection review to provide notice of receipt and whether the application is complete or incomplete. The EDC is then allowed 10 business days after the application is complete to notify the applicant of any additional requirements for approval. If the EDC does not notify the applicant within 20 business days of receipt of the application whether the application is approved or denied, then the

application is deemed approved even if the application is incomplete. Similar time limitations are placed on the EDC in reviewing an application for "expedited" and "standard" interconnection review. This fails to allow sufficient time for the EDC to prudently review and evaluate interconnection applications, which may be not only voluminous but also complex, particularly where large capacity rotating systems are involved. We have included in attached suggested revisions slight extensions of these time limits, as well as a chart that details our recent experiences with reviewing and receiving completed applications. For instance, the EDC should be permitted 10 business days after receiving an application for simplified interconnection review to notify the applicant that the application has been received and whether the application is complete or incomplete. We further propose that the EDC should be allowed 20 business days after the application is complete to notify the applicant of any additional requirements for approval. (JCP&L)

RESPONSE: Please see the response to comment 65 below.

64. COMMENT: The proposed rules provide a very short response time for responding to generator interconnection requests for simplified or expedited projects. N.J.A.C. 14:4-9.7(i) should allow ten business days. N.J.A.C. 14:4-9.7(j) should allow twenty business days. N.J.A.C. 14:4-9.7(k) and (l) should each allow ten business days. The total time period for simplified projects should be 30 days, a standard business cycle time (and consistent with the FERC SG NOPR), rather than the 15-day period proposed. (RECO)

RESPONSE: Please see the response to comment 65 below.

65. COMMENT: Proposed N.J.A.C. 14:4-9.7(i), (j), (k), (l), and (m) and N.J.A.C. 14:4-9.8(n), (o), and (p) provide a very short response time for responding to generator interconnection requests for simplified or expedited projects. The total time period for simplified projects should be 30 days, a standard business cycle time (and consistent with the FERC SG NOPR), rather than the 20-day period proposed. The total time period for "expedited" projects should be longer than for "simplified" ones. Moreover, costs to do any additional studies would be at the EDC's expense (proposed 14:4-9.8(o)). Due to such short turn-around times (e.g., the three-day response time proposed for all applications), EDC's may be required to dedicate one or more full-time employees to processing such interconnection requests. EDCs should be permitted to recover their reasonable expenses, including the costs of such additional employees, from the interconnecting generator or, in the alternative, as a Clean Energy Project cost through the SBC. In addition, the proposed rules provide a very short response time for responding to generator interconnection requests for simplified or expedited projects. N.J.A.C. 14:4-9.8(n) should allow ten business days. N.J.A.C. 14:4-9.8(o) should allow twenty business days. (PSE&G) (RECO)

RESPONSE: The Board has carefully limited the types of customer-generator facilities that are eligible for level 1 and 2 interconnection review, and has set deadlines accordingly, to reflect the fact that these facilities should take less time for review than level 3 facilities. Prompt EDC responses are especially important for the small businesses that typically install the small and medium customer-

generator facilities that are eligible for level 1 and 2 reviews, because they operate on smaller budgets and less able to absorb the cost of delays than larger installers. However, the Board agrees that level 2 review is likely to take more time than level 1 review. Many of the steps are the same for levels 1 and 2 review, but level 2 does require several additional steps. Therefore, N.J.A.C. 14:4-9.8(o) has been modified upon adoption to allow five additional days for the EDC to perform the initial review of a level 2 interconnection application. The Board believes that the other deadlines in the rules are reasonable and achievable, and are necessary to provide timely review for customer-generators. In addition, the rule does not prohibit an EDC from devising application and review procedures to streamline its interconnection reviews. For example, an EDC may choose to accept one interconnection application covering ten identical PV systems located at the same ten unit subdivision, thus saving time and effort for both the applicant and the EDC. Regarding costs, please see the response to the comments on N.J.A.C. 14:4-9.10, Interconnection fees.

66. COMMENT: In both 14:4-9.7 and 14:4-9.8, the BPU draft would require that EDCs acknowledge an interconnection within three business days, and within a further ten days should notify the applicant that its application is accepted, or specify what the application needs in order to be accepted. The EDCs would increase these response times. We believe that the three and ten day times are reasonable. We note that these times are used in NARUC's October 2003 *Model Interconnection Procedures and Agreement for Small Distributed Generation Resources*. (RPA)
RESPONSE: The Board acknowledges this comment in support of the rules.

67. COMMENT: N.J.A.C. 14.4-9.7(m) as proposed gives automatic approval to an applicant if the EDC does not notify such applicant as to approval or non-approval of the proposed installation. This should be changed to require the applicant to contact the EDC to determine the cause for the delay. If the applicant does not receive adequate satisfaction from the EDC, the applicant may contact the Board for appropriate treatment. This is a serious safety issue. A breakdown in communication, no matter who is at fault, should not be viewed as an automatic approval. (RECO) (JCP&L)
RESPONSE: Over the past two years, the most frequent complaint that the Board has received from customer-generators is of the EDC's failure to notify them that an interconnection application has been approved. The Board has limited this automatic approval to level 1 applications because it believes that the provision will not pose safety risks, and because the customer-generator must be able to obtain reliable and prompt responses from the EDC. The Board did not intend to allow for default approval in a case where the application was lost in the mail. Therefore, N.J.A.C. 14:4-9.7(n) has been clarified upon adoption to indicate that the 20 day default period begins upon the EDC's transmittal to the applicant of the notice (required at N.J.A.C. 14:4-9.7(i)) of receipt of the application.

68. COMMENT: In 14:4-9.7(m) of the draft rule, the customer generator may assume its application is approved if it does not hear back from the EDC within 20 days. The utilities object to this provision. If, however, the EDC has already acknowledged receipt of the customer application, it is reasonable to provide this 20-day assurance to the small customer generator. (RPA)
RESPONSE: The Board acknowledges this comment in support of the rules.

14:4-9.8 Level 2 interconnection review

69. COMMENT: The title of N.J.A.C. 14:4-9.8 should be changed to be more descriptive of the facilities covered under the different sections. We suggest Interconnection review for inverter based facilities not to exceed 2 megawatts. (RECO) (PSE&G) (JCP&L)
RESPONSE: This section has been renamed upon adoption to clarify that this is the second most complex level of review.

70. COMMENT: We recommend that the simplified and expedited reviews be reserved for inverter-based systems only. Rotating generators always should be handled under the standard review because of their higher potential for system impacts. Therefore, we propose that the Board move proposed N.J.A.C. 14:4-9.8(l)1 through 3 to N.J.A.C. 14:4-9.9, and add the following requirements at the end of N.J.A.C. 14:4-9.8(a):
    3. The system is not connected to a spot network or common network system; and
    4. The system does not involve the direct interconnection and parallel operation of any rotating equipment or generators. (RECO) (PSE&G) (JCP&L)

RESPONSE: These interconnection review rules are designed to set performance standards rather than to require or reward use of certain types of equipment. This regulatory approach frees each regulated entity to meet the standards through use of the equipment that it deems best. The regulated entity thus has increased flexibility -- first, the flexibility to select among available equipment to best meet its business needs; and second, the flexibility to adopt better equipment in future years as technology evolves. The commenters' suggested language would contradict this regulatory scheme, and would unnecessarily limit flexibility for the regulated community. Rotating equipment is an area in which technology has been and continues to be rapidly advancing. While most older rotating equipment currently in use will not meet the requirements for level 1 or 2 review, a growing number of types of rotating equipment available today can be safely interconnected under those reviews without any adverse impacts to the electric distribution system. An example is a synchronous generator interconnected through soft load switch gear using a solid state switch installed ahead of the synchronizing breaker to trip within 3-4 milliseconds or ¼ cycle upon detection of utility faults, frequency, harmonic or voltage disturbances. In addition, if rotating equipment comes equipped with an inverter, it poses no more risks to the electric distribution system than any other inverter-based equipment. In fact, by setting performance standards rather than equipment

requirements, the Board anticipates that these rules will not only allow for evolving technology, but will stimulate innovation. If the rules allow simpler review for any equipment that meets the performance standard, companies will strive to develop better equipment to meet that standard, in order to make their products more attractive to contractors and customer-generators.

71. COMMENT: We propose that the Board add the following at the end of N.J.A.C. 14:4-9.8(b):

An EDC shall not impose additional requirements not specifically authorized under this section unless safety issues are identified, or unusual operating conditions could result in potential hazards. (RECO) (PSE&G) (JCP&L)

RESPONSE: The Board has carefully designed the interconnection requirements to ensure that the review process will identify and address safety issues and potential hazards. An EDC that believes there is a need to include additional requirements outside of the scope of the rules can request a waiver from the Board under N.J.A.C. 14:1-1.2(b).

72. COMMENT: We support the technical limits proposed in N.J.A.C. 14:4-9.8(c) through (l) and other sections throughout the rule as conservative values that provide sufficient safety margins for the operation of distribution circuits in New Jersey. (PVNOW)

RESPONSE: The Board acknowledges this comment in support of the rules.

73. COMMENT: The draft rule proposes that the total of distributed generation capacity connected to any radial distribution circuit should not exceed 10 percent of the circuit's peak load, though solar electric generation could reach 15 percent of peak load. The utilities would remove this 15 percent provision from both 14:4-9.7 and 14:4-9.8. Since some states, including California and Texas, accept the 15 percent limit for all technologies, we do not share the utilities' concern about this provision. (RPA)

RESPONSE: The Board acknowledges this comment in support of the rules.

74. COMMENT: In proposed N.J.A.C. 14:4-9.8(c), the screen for short circuit interrupting capability should be changed from 90% to 85%. The 90% number proposed is not conservative enough. Utility distribution systems have constantly changing values of voltage, load, power factor, circuit configurations, etc., all of which can affect short circuit current. Exceeding short circuit interrupting capability can lead to dangerous catastrophic failure of equipment during a fault. Since passing the screen grants automatic approval it is best to err on the side of caution. Failing the screen does not disqualify an installation, only indicates more detailed analysis is required. In addition, the percentage should be measured as a percentage of the short circuit interrupting capability or the momentary short circuit withstand capability of the equipment. (RECO) (PSE&G) (JCP&L)

RESPONSE: Please see the response to comment 75 below.

75. COMMENT: Section 14:4-9.8 deals with an expedited interconnection procedure for generators of up to 2000 kW. The utilities have expressed concern with several of the specific provisions of the draft rule, and they submitted a revised draft before the final informal meeting on this matter. We agree with the utilities' proposed paragraph (c). Paragraph (c) provides that the addition of a distributed resource shall not cause a circuit to exceed 90 percent of its short circuit interrupting capability. To reduce risk, the utilities would reduce this threshold to 85 percent. We do not believe an 85 percent limit would materially retard customer generation. We note that 85 percent is used in the October 2003 *Model Interconnection Procedures and Agreement for Small Distributed Generation Resources* prepared by the National Association of Regulatory Utility Commissioners (NARUC). The utilities' proposed paragraph would also make explicit their lack of liability for customer equipment. (RPA)
RESPONSE: While the 85% figure was used in the cited NARUC document, the 90% figure was also used in the same document. The 90% threshold is also used in a filing before the FERC on small generator interconnection standards, in which various parties, including certain utilities, agreed to the 90% threshold. The Board agrees that it is best to err on the side of caution in matters of utility safety and reliability, and believes that this threshold accomplishes this goal. In addition, there are indications that FERC will choose the 90% threshold for use in the national context, and it is important for New Jersey to be as consistent as possible with FERC. In the event that an EDC cannot accurately determine total short circuit contributions, or when its calculations show total short circuit current exceeds 85 percent of the interrupting rating on a protective device, the EDC has the option of requesting assistance from Board staff.

76. COMMENT: We recommend the addition of the following sentence at the end of N.J.A.C. 14:4-9.8(c):
The EDC shall not be responsible for any costs associated with the determination of the ratings of any customer-generator owned equipment, any other locally connected customer's equipment, nor for any liability associated with the addition of any new generation. (RECO) (PSE&G) (JCP&L)
RESPONSE: The Board agrees that an EDC is not responsible for the cost of determining the rating of customer-owned equipment, and has added a provision clarifying this point at N.J.A.C. 14:4-9.5(e). The suggested provision regarding liability has not been included, as it is vague and beyond the scope of this rule.

77. COMMENT: In the Edison Electric Institute's ("EEI") comments to the FERC SG NOPR, they specifically say that there should be no connections allowed at all to secondary area networks, only to radial or "spot" networks. However, the Board's proposed rules make no distinctions as to the type of networks. Based on reliability concerns, we concur with EEI's position and urge the Board to limit the interconnection of DG to only radial or "spot" networks, and only after adequate study is performed. (PSE&G)
RESPONSE: The Board agrees that more safeguards are needed for interconnection to area networks than to spot networks. Therefore, N.J.A.C. 14:4-

9.8(l) distinguishes between spot and area networks, providing more conservative interconnection requirements for area networks than for spot networks. The Board believes that, interconnections that meet these requirements can be made to area networks (also known as secondary grid networks) without impacts to safety or reliability. The requirements for interconnection to area networks are in practical terms equivalent to the requirements in effect prior to these amendments. The prior rules limited customer-generator capacity to either 100 kw or 50% of the minimum load on a network, whichever is less. These amendments limit capacity to either 500 kw or 10% of the minimum load on a network, whichever is less. In practical terms, this will not make a significant difference, but it more closely matches the expected direction of the FERC.

78. COMMENT: In N.J.A.C. 14.4-9.8(o), the Board should establish a time limit by which the applicant must send in the executed interconnection agreement. Experience has shown some customers will postpone or even cancel a project without notifying the EDC. This can adversely affect other applicants wishing to install generation on the same or nearby area as the first applicants system will be modeled in the studies and screens. (RECO)
RESPONSE: The Board understands that issues of prompt and clear communication between the customer-generator and the EDC are important, and poor communication in either direction can cause major problems. In fact, the Board has convened an ongoing working group (which includes representatives of customer-generators and EDCs) to address this and other interconnection issues. However, the Board believes that adding a specific deadline to the rule would not solve the problem and could in fact cause more problems. Because interconnection projects can vary tremendously in scope and complexity, both EDCs and customer-generators need flexibility. Therefore, the Board plans to address the issue of customer-generator communication to the EDC through procedures and guidelines, developed in consultation with stakeholders.

79. COMMENT: Safety and reliability issues associated with rotating equipment can only be addressed through the standard review process. The legislative purpose of limiting net metering to small customers with wind or solar photovoltaic generators is clear – to provide an incentive for smaller customers to install renewable, inverter-based generators. Smaller, inverter-based generators create significantly fewer technical and reliability concerns for the EDC's distribution system. In contrast, the proposed increase in size of eligible systems would allow generators utilizing rotating equipment (e.g., landfill gas fired internal combustion engines or gas turbines) to qualify for net metering. These larger, synchronous generators create a much greater risk of adverse reliability and safety impacts on the distribution grid, and, in particular, will impact other customers in the immediate area by effecting short circuit duties, voltage regulation and power factor correction. To the best of our knowledge, no packaged systems utilizing rotating equipment are currently pre-certified for interconnection to a utility distribution system. Further, that certain equipment is "certified" (see N.J.A.C. 14:4-9.6) means only that the equipment is suitable for interconnection, but does not address what

impact that equipment will have on the EDC's distribution system at the point of interconnection. Depending on the results of an impact study, additional protection equipment may be required. Accordingly, all rotating equipment systems should be subject to the Standard review process. (JCP&L)

RESPONSE: The Board carefully limited the types of equipment eligible for level 2 review. Therefore, only rotating equipment that has been certified and listed by UL or another nationally recognized testing laboratory can qualify for level 2 interconnection. Other rotating equipment would have to be reviewed through the level 3 review process. It may indeed be true that no rotating equipment currently available meets these stringent standards. However, should such equipment exist or be developed, these interconnection rules will be ready to accommodate it. The Board believes that any interconnection equipment that meets the stringent requirements of the UL (which applies IEEE 1547 standards), will have protective devices that will address most of the reliability and safety concerns presented by rotating equipment. Any remaining concerns will be addressed through the additional limits on the size, short circuit contribution and other aspects of the equipment. Therefore, the Board has not made the commenter's suggested change.

14:4-9.9 Level 3 interconnection review

80. COMMENT: We recommend the addition of the following to the end of proposed N.J.A.C. 14:4-9.9(c)3: and control requirements. (RECO) (PSE&G) (JCP&L)

RESPONSE: The rule has been modified upon adoption at N.J.A.C. 14:4-9.9(c)3, to clarify that control requirements are one of the factors upon which an impact study should focus.

81. COMMENT: We recommend deletion of the phrase " , which shall be accurate to within plus or minus 25%." From N.J.A.C. 14:4-9.9(e)2. (RECO) (PSE&G) (JCP&L)

RESPONSE: Customer-generators who apply for interconnection under this rule need predictability in order to make prudent decisions about investing in interconnection and net metering. Without accurate estimates, prudent decisions will be impossible. While most businesses must provide exact estimates, the technologies involved in net metering and interconnection are still evolving and thus exact estimates may be difficult. Therefore, the Board believes that EDCs should have the additional flexibility of a 25% "cushion." Therefore, the suggested change has not been made.

82. COMMENT: We recommend that proposed N.J.A.C. 14:4-9.9(i) (level 2 review) be revised to allow twenty days (rather than 15) for the EDC to make required inspections, and that N.J.A.C. 14:4-9.9(j) be revised to allow ten days (rather than three) for the EDC to notify the applicant of the results of inspections. (RECO)

RESPONSE: The Board believes that the proposed deadlines are reasonable, and fairly balance the EDC's need for time and the customer-generator's need for prompt EDC responses.

14:4-9.10 Interconnection fees

83. COMMENT: The EDCs are given far too much discretion under the rule. An impartial party should make the cost estimates, not the EDC. If the EDC oppose the estimates it can be reviewed by the EDC, just as the customer-generators have the right to challenge the cost estimates. Furthermore, the EDC should explicitly state in these rules that other costs related to minor modifications or "additional review" shall be capped at an amount not to exceed $1000. Leaving it on a case-by-case method could lead to protracted disputes about the justification for the cost and ultimately hinder the development of renewable projects. This provision gives us great concern because of the potential for delay and additional significant costs, which could kill a project. (C)

RESPONSE: For level 1 review, no cost estimates are needed so there is no need for third party review. Requiring that engineering estimates for level 2 and 3 reviews be conducted by a third party would add delay and expense to the interconnection review process. Furthermore, while the Board has regulatory authority over an EDC, it may not have equivalent authority over a third party who performs cost estimates. If a customer-generator is dissatisfied with cost estimates performed as part of a level 2 or 3 review, the customer-generator can initiate an informal or formal complaint with the Board. The suggested $1,000 cap on costs for minor modifications or additional review would not provide the flexibility an EDC needs to address the wide variety of customer-generator facilities that are eligible for review under this subchapter. In addition, if a very expensive modification to the EDC's system is necessary to accommodate a customer-generator facility, this may be an indication that the facility is not economically viable. The ratepayers should not be responsible for supporting customer-generator facilities that are not economically viable.

84. COMMENT: The fee structure in the proposed amendments is reasonable. As a general rule, the smaller a DG project is, the more vulnerable it is to being rendered uneconomic by unnecessary transaction costs. Interconnection costs for a small unit, on a dollars per kilowatt basis, can approach the entire installed capital cost of a large gas turbine. Obviously that presents an enormous barrier to entry for small DG technologies. For a small DG project, “interconnection costs” are those additional costs imposed by utilities, primarily for engineering studies, testing, and metering, which are in many cases unnecessary. We have interconnected units in numerous states, with interconnection costs ranging from zero to nearly two thousand dollars, which units have operated for over 1.2 million hours and, to our knowledge, have never created any disruption of a power system. Exempting small units from interconnection fees does not represent a subsidy. It reflects two facts: first, that the small amount of work required of a utility for these projects is simply a form of customer service; and second, that these

projects can be presumed to require no study in almost all cases. In some cases, interconnection costs have been imposed because utility personnel have been unfamiliar with the equipment and have been reluctant to approve its use on their system without a thorough review. This is understandable. However, small DG units have been operating across the country for million of hours without creating substantial problems, and national technical standards are in place. We encourage utility personnel to make themselves familiar with anti-islanding inverter systems; but customers should not be required to pay for this type of analysis when their equipment has already been certified under national standards. No provision is more important to small DG developers than the fee provision. The future of small DG depends on standardized interconnection rules that protect customers from having to pay for unnecessary studies. (PP)

RESPONSE: The Board appreciates this comment in support of the rule's fee structure.

85. COMMENT: The California PUC used a quasi-legislative process to explore what rate design model will help to encourage delivery businesses (as restructured and separated from the production business) to proactively support larger scale adoption of distributed resources (renewable energy, DSM, distributed generation). Such a process may be needed to resolve issues and reach consensus on DG interconnection policy in New Jersey. (CPD)

RESPONSE: The California process has proved to be very lengthy and time-intensive. While the Board has solicited stakeholder input on its net metering and interconnection policies and will continue to do so, the Board does not believe a California-type process is necessary.

86. COMMENT: The BPU should take all steps to reduce the economic burdens in developing projects. We recognize the utilities must be compensated for services provided in supporting renewable projects, but such compensation should be just and reasonable. With respect to the $1 per kilowatt charge, we cannot see how the interconnection review process for a large solar project is any more expensive than a smaller project. Installing, monitoring and testing a meter should be the same cost regardless of size. Moreover, any paperwork associated with the process will be the same. Unless there is some other justification, which the rules do not set forth, the additional fees for larger projects appears to be a mechanism to generate fees off the larger projects, rather than as just compensation for services. The interconnection fee should be the same regardless of size. (C)

RESPONSE: In the Board's experience, the complexity of generating facilities, whether solar or other types, increases according to the size of the facility. As a result, more stringent review is required, and larger facilities will require greater expenditures on the part of the reviewing EDC. Therefore, the Board has included the size gradation in developing the interconnection fee structure. The Board believes that the fee provisions as proposed result in reasonable fees, given that the highest fee possible for the largest facility eligible for net metering under the rules would be $4,100.

87. COMMENT: Several elements of the proposed rules would restrict an EDC's ability to charge the interconnecting generator for the reasonable costs incurred in conjunction with the interconnection. This is inequitable, and would result in a subsidy by the EDC, and the majority of its customers who do not participate in customer-sited generation, of the costs of a relatively few customers with interconnected renewable DG. It also violates the fundamental principle that those customers that create the costs should pay for them. This concern is heightened given that the Board has proposed significantly higher load caps on net metered distributed generators. Moreover, our customers are already subsidizing renewable energy projects through the New Jersey Clean Energy Program, which provides Societal Benefits Charge ("SBC")-funded incentives to renewable energy program participants. Finally, the costs and uncertainties associated with obtaining recovery of lost revenues through reallocating costs among remaining customers can put the financial picture of the EDC in question – a situation that ultimately can impact the credit ratings. Accordingly, we recommend that the Board amend its proposal to allow utilities to recover all reasonable costs either from the generator that seeks to interconnect, or through SBC funding, whether an application falls under the "Simplified", "Expedited" or "Standard" category. (RECO) (PSE&G) (JCP&L) (CPD)

RESPONSE: Based on a cost analysis, the Board has determined that the interconnection and net metering of solar distributed generation does not result in a subsidy by EDCs and their customers. Solar net metered customers actually provide a dollar benefit to EDCs, through production of energy during peak hours, avoided energy costs in localized areas, reduced pollutant emissions (thereby allowing EDCs to avoid environmental compliance costs), reduction in the need for capital investments, and reduced utility maintenance costs. Most of these benefits also will apply to non-solar renewable distributed generation. Therefore, the Board is confident that there will be no negative ratepayer impact from these rules, even under the worst case assumptions, and in fact a beneficial economic impact on ratepayers is expected.

88. COMMENT: N.J.A.C. 14:4-9.8(o)3 allows the EDC to charge fees to [level 2] interconnection applicants when the requirements for Expedited review have not been satisfied. These fees can be levied for studies and/or minor modifications to the electric system. If the rule's intention is to require EDCs to treat interconnecting customer-generators in a non-discriminatory fashion, this section is inconsistent with such goals. The policy principle should be that collection of costs regarding connecting customer-generators to the utility grid should be done in the same manner as the collection of costs for new or expanding customers. In many cases those costs are not assigned to the new or expanding customer, but are generally shared by all ratepayers when rates are set. Other states (such as California) have determined that the benefits of localized clean generation to the citizens of the State outweigh the benefits of recovering all costs from the interconnection applicant. These jurisdictions allow EDCs to accumulate costs for interconnection studies and apply for rate treatment for these costs. We suggest that this philosophy guide the fees throughout the rule. Therefore, the following

should be added at the end of N.J.A.C. 14:4-9.8(o)3: The EDC may only require the applicant to pay for the additional review and/or modifications if all customers within the same rate classification are required to pay for all reviews regarding upgrading, expanding or establishing service with the EDC. In addition, non-discriminatory language regarding interconnection costs should be inserted in N.J.A.C. 14:4-9.9(c) and (e), providing that the EDC may only require the applicant to pay for impact studies or modifications if all customers within the same rate classification are required to pay for all reviews regarding upgrading, expanding or establishing service with the EDC. (PVNOW)

RESPONSE: Please see the response to comment 89 below.

89. COMMENT: The policy goals of the Board will most likely be achieved if customers are able to purchase renewable energy at the least possible cost. Furthermore, the public benefits of solar energy in particular have been documented in many presentations to the Board and Board staff. Included in these public benefits are decreases in air pollutants and overall reductions in the power pool prices in PJM because of the coincidence of high-energy prices and solar availability. Consequently, the imposition of higher costs on solar energy developers and customers is not justified from a societal perspective. We suggest that the EDC's track the fees as suggested in the proposed rule through deferred accounting or other approved methods and apply for cost recovery through the traditional rate making process. To accomplish this, the following should be added to N.J.A.C. 14:4-9.10(b): "For an expedited interconnection review, the EDC may not charge the individual applicant, but may accumulate charges in a deferred account of up to $50 plus $1 per kilowatt… " The same language should be added to N.J.A.C. 14:4-9.10(c). (PVNOW)

RESPONSE: The Board believes that it is appropriate to require interconnection applicants to pay some fees for interconnection review, not only to compensate the EDC for services, but also to ensure that applicants do not submit frivolous applications or pursue projects that are clearly not economically viable. The Board has tried to devise a fee schedule that balances the needs of EDCs and applicants, and the public interest in promoting renewable distributed generation.

90. COMMENT: The proposed $100 per hour cap on hourly engineering fees at N.J.A.C. 14:4-9.10(b) is well below the average hourly rates for utility engineers regularly engaged in the work necessary to evaluate interconnection requests and the associated impact on the electric distribution system. (PSE&G)

RESPONSE: The EDC already recoups the overhead portion of its fully loaded hourly costs through rates, so allowing the EDC to charge applicants at the fully loaded rate would provide double payment to the EDCs for their services. The $100 figure was taken from the existing rules, which allow for $800 per day for EDC labor. Assuming EDC employees work an eight hour day, the hourly rate should be $100.

91. COMMENT: The Board's proposal differs from the interconnection cost recovery proposed by the FERC in its NOPR. The Small Generator NOPR

provides for Additional Review if a proposed Interconnection fails any of the Super-Expedited Screening Criteria. In addition, while the NOPR limits the engineering review to 6 hours, it does not limit the hourly rate that the engineer may charge. (PSE&G)

RESPONSE: Please see the response to comment 93 below.

92. COMMENT: We recommend the addition of the following to the end of proposed N.J.A.C. 14:4-9.9(b):

The EDC shall provide up to five hours of such services at no charge to the applicant. After which, the applicant shall be required to pay for the EDC's services at the EDC's fully loaded costs. (RECO) (PSE&G) (JCP&L)

RESPONSE: Please see the response to comment 93 below.

93. COMMENT: We recommend deletion of N.J.A.C. 14:4-9.10(b) and (c), to be replaced by the following:

(b) For level 2 and level 3 interconnection reviews, the EDC may charge for any studies at the Company's fully loaded labor rate in accordance with the Tariff filed and approved by the BPU. (RECO) (PSE&G) (JCP&L)

RESPONSE: It is very important for applicants to be able to predict the total cost of an interconnection upfront as accurately as possible, in order to make decisions about whether and how to pursue a particular project. All of the commenters' suggested provisions would provide little or no predictability to applicants, because they limit neither the types of work that can be charged for, nor the hourly rate for the work. By contrast, the fee schedule in the rules delineates clearly the types of work for which the EDC may charge fees (level 2 – additional review and minor modifications; level 3 – impact and facilities studies). Furthermore, the rules provide a specific cap on the hourly rate for the work. The rules do not use the fully loaded labor rate because the EDC already recoups the overhead portion of its fully loaded hourly costs through rates, so allowing the EDC to charge applicants at the fully loaded rate would provide excess payment to the EDCs for their services.

94. COMMENT: The "Standard" interconnection procedure at N.J.A.C. 14.4-9.9(h) should be modified to specify that the customer pays the estimated interconnection costs subject to a final reconciliation of actual charges, which could result in either additional charges or a refund. The Board should add a new subpart so specifying. (RECO) (PSE&G) (JCP&L)

RESPONSE: Please see the response to comment 95 below.

95. COMMENT: In section 14:4-9.8, paragraph (n)(3) in the utilities' revised draft, the EDC would require receipt of payment from an applicant before performing additional review to determine whether feasible modifications to their distribution system would permit an interconnection that otherwise would not meet one or more technical requirements to interconnect. This is a reasonable provision. (RPA)

RESPONSE: Payment for construction projects is traditionally made in graduated increments, roughly matching the progress of the project. This provides

protection for both parties. In the case of interconnections, the initial deposit provides EDCs with startup funds, while providing an incentive to the customer-generator not to abandon the project. The fact that final payment is not due until completion provides an incentive for EDC diligence in completing the review, and gives the customer-generator some recourse if the EDC does not perform adequately. For these reasons, the suggested change has not been made.

96. COMMENT: The reference in the first sentence of N.J.A.C. 14:4-9.10(b) to "N.J.A.C. 14:4-9.8(p)3 or 4" is incorrect, and should be changed to "N.J.A.C. 14:4-9.8(o)3 or 4". (RECO)
RESPONSE: The cross reference has been corrected on adoption.

14:4-9.11 Requirements after approval of an interconnection

97. COMMENT: The utilities would require an external disconnect switch for a customer generator, which would be defined at 14:4-9.2. Such a switch would permit the EDC to disconnect a customer generator to ensure that it cannot accidentally re-energize a radial distribution circuit that is under repair. However, under section 14:4-9.6 (a), customer generators will not even be certified for interconnection unless they comply with the new Institute of Electrical and Electronics Engineers (IEEE) standard 1547 and with Underwriters Laboratories (UL) standard 1741. Under these IEEE and UL standards, the customer generator must be wired to instantly disconnect from the grid when voltage in the circuit to which it is connected is absent or abnormal. Chris Cook, technical consultant to the BPU Clean Energy Office, who analyzed the costs and benefits of external disconnect switches, concludes that there is little or no benefit to requiring the devices, while they add economic costs to customer generators. We find his analysis persuasive and suggest that there be no external disconnect switch requirement. (RPA)
RESPONSE: The Board acknowledges this comment in support of the rules.

98. COMMENT: Proposed N.J.A.C. 14:4-9.11(a) contains a prohibition against the installation of external disconnect switches for generating facilities that interconnect using the "simplified" or "expedited" procedures. Accessible disconnect switches are necessary to protect utility workers from shock or electrocution as a consequence of connecting customer-sited generation to a system designed to send electricity to customers. This concern is heightened by the proposal to allow much larger generators using synchronous generator technologies. Both the current interconnection standards filed by the utilities in December 2002 and those of other states require external disconnect switches in most circumstances. California Rule 21 specifically indicates the need for an external disconnect switch for utility personnel. Hundreds of facilities have been interconnected in California using Rule 21 without adverse economic penalties. We encourage the Board to reconsider this aspect of the proposal and adopt a final rule that addresses this important safety issue. In addition, EDECA states that the Board's interconnection standards for eligible renewable generators "shall take into consideration the

standards of other states and the Institute of Electrical and Electronic Engineers ..." N.J.S.A. 48:3-87(e)(2). IEEE Standard 1547, Section 4.1.7, Isolation Device states: "When required by its Area EPS operating practices, a readily accessible, lockable, visible-break isolation device shall be located between the Area EPS and the DR unit." Moreover, such switches are typically required by utilities. The model tariff under California PUC's Rule 21, which was developed as part of a collaborative process, explicitly requires the connecting generator to install accessible disconnect switches in most circumstances. California's disconnect switch requirement has not proven to be a hindrance to the DG industry, since hundreds of DG units have been interconnected in California in compliance with this standard. EDCs must be able to insist on an external disconnect switch for the safety of their employees and the general public. The use of a switch provides additional protection when needed to isolate the customer's system from the EDC's distribution system. This is especially true with larger rotating equipment that has the ability to generate significant fault current. In addition, customers frequently call their local EDC to help resolve customer owned equipment problems and isolation switches enable EDCs to safely meet a customer's needs, while still providing a high degree of reliable service. In sum, EDCs must be able to insist on external disconnect switches, where required by their operating practices, to help prevent accidental electrocution of their employees. This disconnect switch must be accessible to EDC personnel at all times and be tagged in accordance with the EDC's requirements. If disconnect switches are not required in the proposed rule, then issues of liability, union work rules and compliance with the National Electrical Safety Code would be implicated. We oppose any restriction on external disconnect switches or any other element of the rule proposal that would impact safety. (PSE&G) (JCP&L) (RECO)

RESPONSE: Please see the response to comment 99 below.

99. COMMENT: We agree that there is no legitimate public policy or safety reason to require an external disconnect switch. (see N.J.A.C. 14:4-9.11(a).) The safety reason most often put forward by utility representatives is the need to protect line personnel who will be working during outages. The intent of lockout switches is to prevent back-feed from customer sited equipment into the grid. Although inverter based systems have back-feed protection built into the inverter, utilities normally seek added protections, such as the external lockout switch. The realities of today's electric grid make the argument irrelevant. Thousands of customers throughout New Jersey have chosen to install emergency generators at their homes and businesses. Relatively few have entered into interconnection agreements. Utility line workers have no idea where these generators are located and will never have a foolproof method of identifying their locations. It has now become incumbent upon line crews working an outage to assume that the possibility of backfeed exists. Utility work practices currently require tagging and grounding procedures to prevent such accidents. It is unfair and discriminatory to place a cost burden on renewable energy systems that other generators do not have and is in fact unnecessary for worker protection since more effective work procedures are available to address the safety issue. (PVNOW)

RESPONSE: The Board acknowledges this comment in support of the rules. N.J.A.C. 14:4-9.11(a) does not prohibit the installation of external disconnect switches. It does, however, prohibit the EDC from requiring an applicant to install an external disconnect switch on equipment eligible for level 1 or level 2 review. An EDC may require an applicant to install a disconnect switch on equipment that requires level 3 review. The Board required an external disconnect switch under previous net metering rules. However, Board staff discovered that the switches were being installed in accordance with the rules but never used, because standard practice for EDC employees is to assume that all lines could be live in both directions. As noted by a commenter, numerous customers have installed small generators at homes and businesses, which the EDCs do not track or monitor. Therefore, even if an EDC were to require an external disconnect switch for every renewable energy customer-generator, the line would have other sources of backfeed or a rogue generator might feed power to the grid without the EDC's knowledge. The only way to ensure safety for EDC employees is to follow standard industry practice and require line workers to assume that all lines are carrying some power at all times. If a total shutoff of a customer-generator facility is needed in an emergency situation, the meter can be removed from the customer-generator's facility. While the commenter is correct that California rules require an external disconnect switch, many other states do not require such switches. IEEE 1547 does not require an external disconnect switch in all cases, but merely describes the characteristics such a switch should have, if one is required by area EPS operating practices. Finally, customer-generator facilities come with a number of disconnect switches which enable the customer to shut off power at the inverter or internal disconnects, depending on the generating technology used. In a case where a customer has called for service, these switches can be used by the customer, EDC personnel or other third party agents hired to perform customer service.

100. COMMENT: A definition should be added for the term "Disconnect Switch". Experience has shown there is some confusion as to what constitutes an approved disconnect switch that is consistent with safe utility work practices. Accordingly, we propose the following definition for inclusion in N.J.A.C. 14:4-9.2:

"Disconnect switch" means an accessible, visible and lockable switch that can be used to disconnect and isolate a customer-generator facility from the electric distribution system. The disconnect switch must be accessible to EDC personnel at all times, and must be located at the electric service meter unless a different location is agreed to by the EDC in writing. (JCP&L) (RECO)

RESPONSE: The Board does not believe that this definition of "disconnect switch" should be included in the rule. First, this term is used only once in the rules, at N.J.A.C. 14:4-9.11(a), which prohibits an EDC from requiring such a switch for level 1 and 2 applicants. Second, if an EDC requires a disconnect switch on a customer-generator facility pursuant to a level 3 review, the EDC can provide these types of specifications to the customer-generator on a case-by-case basis, tailored to

the site and the facility. Finally, the definition is not needed because specifications for disconnect switches can be found in the National Electric Code, which is referenced in the rules.

101. COMMENT: We recommend the following be added to N.J.A.C. 14:4-9.11(c):

3. Periodic testing, calibration and maintenance to be performed on the customer-generator's protective relays that interface with the EDC's system; or

4. Periodic testing and maintenance of incoming line and bus tie circuit breakers, and disconnect switches, in the customer-generator's substation and switchgear. (RECO) (PSE&G) (JCP&L)

RESPONSE: The Board agrees that the suggested requirements are appropriate, and has added a reference to manufacturer-recommended maintenance. However, it is unnecessary to add the remainder of the suggested provisions because these requirements are already included in the term "manufacturer-recommended testing or maintenance", found in the adoption at N.J.A.C. 14:4-9.11(c)2.

102. COMMENT: We note that it is highly likely that additional controls will be required by the EDC if the customer-generator is dispatchable, if customer-generator personnel are not available at all times, and most certainly if the customer-generator utilizes a synchronous generator. In this regard, the Board should also modify the rule proposal to specify that all necessary studies, metering, and labeling shall be performed prior to allowing the customer-generator to operate in parallel with the EDC's system. (PSE&G)

RESPONSE: The requirements the commenter suggests are already included in the rules through reference to UL and IEEE standards which allow the EDC to require labeling and signage, studies, and metering, prior to operation of a customer-generator facility.

103. COMMENT: We recommend the following be added to N.J.A.C. 14:4-9.11:

The customer-generator shall maintain records of all testing and maintenance performed in accordance with the requirements of this subchapter. (RECO) (PSE&G) (JCP&L)

RESPONSE: The rules have been modified upon adoption at N.J.A.C. 14:4-9.11(d) to clarify that, for customer-generator facilities approved through a level 2 or 3 review, the customer-generator is responsible for keeping records of testing and maintenance required by the subchapter. However, the Board does not believe customer-generators eligible for level 1 review should be required to maintain written records of testing and maintenance of their facilities. Customer-generators eligible for level 1 review will typically be residential customers, who should not be burdened with detailed record-keeping requirements.

104. COMMENT: We recommend that the second sentence of N.J.A.C. 14:4-9.11(d) be modified as follows:

If the EDC discovers that the customer-generator's facility is not in compliance with the requirements of this subchapter, and the EDC determines that the non-compliance may have potentially adverse ~~adversely~~ affects on the safety or reliability of the electric distribution system, the EDC may require the customer-generator to disconnect the customer-generator's facility until compliance is achieved. (RECO) (PSE&G) (JCP&L)

RESPONSE: The Board does not believe it is appropriate to make the EDC the sole judge of whether an incident of noncompliance with the rules adversely affects the safety or reliability of the electric distribution system. Therefore, the suggested change has not been made.

105. COMMENT: We oppose any limits on the EDC's ability to require interconnecting customer-generators to provide insurance. Most, if not all, customer-generators will have existing liability insurance and would be able to add the EDC as a named insured on such a policy at little or no additional cost. California's Rule 21 established explicit insurance requirements for interconnecting generators, based on facility size, with specific required dollar amounts. (PSE&G)

RESPONSE: It is true that a customer-generator facility may, under some circumstances, contribute to damage of an electric distribution system. However, this is also true of equipment or conditions on properties owned by other customers, who are not required to carry utility-specific insurance to cover any damage they might cause. For example, improperly maintained trees regularly cause significant and costly damage to utility lines and the electric distribution system, yet EDCs do not require customers with trees on their property to carry specific levels of insurance or name the EDC as a covered party in order to retain their right to electric service. Therefore, the Board believes that imposing special insurance requirements on customer-generators is inappropriate and would conflict with the Board's mandate to promote distributed renewable generation in New Jersey.

106. COMMENT: We suggest the addition of a new N.J.A.C. 14:4-9.11(e), to recognize that there may be disagreements between customer-generators and supplier/providers or EDCs regarding the technical application of the interconnection rules and procedures. Although it is the ultimate responsibility of the Board to resolve these differences, we suggest that language similar to that in the Massachusetts model interconnection instrument be included in the Rule so that the Board has the ability to set up a more structured Dispute Resolution process if necessary. One of the difficulties for small renewable developers is that the EDCs have the ultimate ability to say no to a project on technical grounds that may not be defensible when examined by objective engineering experts. Without a clearly defined process with short time frames, these disputes can drag on for years. Although this has little effect on the EDC, such an undetermined dispute resolution process can kill a renewable energy project. Therefore, we suggest the following language and encourage the Board to implement a Dispute Resolution process for interconnection issues as soon as is practicable:

(e) The Board will establish a Dispute Resolution process that will allow applicants who disagree with a determination of fact or need by an EDC regarding an interconnection issue to appeal the EDC decision through a series of steps that may include Good Faith Negotiation, Mediation, Non-Binding Arbitration and EDC Adjudication if necessary." (PVNOW)

RESPONSE: The Board has an existing informal complaint procedure, set forth at N.J.A.C. 14:1-5.13. While this procedure does not have specific deadlines, it allows for complaints to be handled by the Board staff involved in net metering, who are sensitive to the problems caused by delays in resolving disputes. Should the existing process prove to be inadequate, the Board will consider modifications to it as necessary to ensure prompt dispute resolution. A cross reference to N.J.A.C. 14:1-5.13 has been added upon adoption at N.J.A.C. 14:4-9.5(h).

Stakeholder meeting of September 2, 2004:

Based on input received at the September 2 stakeholder meeting, the Board made several additional modifications to clarify the rules. Specifically, the Board:

- Clarified at N.J.A.C. 14:4-9.3(l) that the subchapter does not abrogate the duty to comply with Federal or State law or codes;
- Clarified at N.J.A.C. 14:4-9.5 that the interconnection provisions in the rules could be used to review the interconnection of a customer-generator facility that would not be used for net metering, at the discretion of the EDC;
- Clarified at N.J.A.C. 14:4-9.7(n) that the 20 day period for automatic approval of a level 1 interconnection starts when the EDC sends the applicant the required notice of application completeness;
- Clarified at N.J.A.C. 14:4-9.11(c) that, for customer-generator facilities subject to level 3 interconnection reviews, the EDC may require post-installation testing for safety and for compliance with IEEE 1547;

Some stakeholders at the September 2 meeting requested that the rules require that each customer-generator facility have a disconnect switch located externally, where it is accessible to the EDC at all times. For the reasons discussed in the response to comment 99 above, the Board has not required external disconnect switches.

Agency-initiated changes:

1. In N.J.A.C. 14:4-9.3(i), terminology relating to the cross-reference to N.J.A.C. 14:4-8.9 has been corrected to refer to "Solar Renewable Energy Certificates" or "SRECs." In addition, and references to SRECs have been added to the last sentence of the subsection to clarify that it applies to both RECs and SRECs.

2. At N.J.A.C. 14:4-9.9(g), the word "estimated" is added upon adoption to clarify that the EDC's prediction of the time it will take to construct facilities will be, of necessity, an estimate and not a guarantee.

Federal Standards Statement

Executive Order No. 27 (1994) and N.J.S.A. 52:14B-1 et seq. require State agencies that adopt, readopt or amend State regulations that exceed any Federal standards or requirements to include in the rulemaking document a Federal Standards Analysis. N.J.A.C. 14:4-9 is not promulgated under the authority of, or in order to implement, comply with or participate in any program established under Federal law or under a State statute that incorporate or refers to Federal law, Federal standards, or Federal requirements. Accordingly, Executive Order No. 27 (1994) and N.J.S.A. 52:14B-1 et seq. do not require a Federal Standards Analysis for these amendments.

Full text of the adoption follows (additions to proposal indicated in boldface with asterisks *thus*; deletions from proposal indicated in brackets with asterisks *[thus]*):

SUBCHAPTER 9 NET METERING AND INTERCONNECTION STANDARDS FOR CLASS I RENEWABLE ENERGY SYSTEMS

14:4-9.1 Scope

(a) This subchapter sets forth *net metering* requirements that apply to electric power suppliers, basic generation service providers and electric distribution companies, as defined at N.J.A.C. 14:4-9.2, which have residential or small commercial customers who generate electricity using class I renewable energy.

(b) This subchapter also sets forth requirements for the interconnection of customer-generator facilities *, including those* that generate class I renewable energy *,* with electric distribution systems, as those terms are defined at N.J.A.C. 14:4-9.2.

14:4-9.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

. . .

"Customer-generator" means a residential or small commercial customer that generates electricity, on the customer's side of the meter *[, using a system that generates class I renewable energy]*.

. . .

14:4-9.3 Net metering general provisions

(a) All Electric Distribution Companies (EDC) and supplier/providers, as defined at N.J.A.C. 14:4-9.2, shall offer net metering to their residential and small commercial customers, as defined at N.J.A.C. 14:4-9.2, that generate electricity, on the customer's side of the meter, using class I renewable energy *sources*, provided that the

generating capacity of the customer-generator's facility does not exceed two megawatts, *and does not exceed the customer's peak electric needs*.

(b) - (f) (No change from proposal.)

(g) Each supplier/provider or EDC shall submit an annual net metering report to the Board. The report shall be submitted by *[October 31st]* *June 30th* of each year, and shall include the following information for the one-year period ending *[September 30th]* *May 31st* of that year:

1. The total number of customer-generator facilities;
2. The total estimated rated generating capacity of its net metering customer-generators;
3. The total estimated net kilowatt-hours received from customer-generators; and
4. The total estimated amount of energy produced by the customer-generators *, which shall be calculated using protocols approved by the Board*.

(h) A customer-generator *that is eligible for net metering* owns the renewable attributes of the electricity it generates *on or after {effective date of this rule}, unless there is a contract with an express provision that assigns ownership of the renewable attributes.

(i) A customer-generator that owns renewable attributes may trade or sell the attributes to another person, or * *[, and]* may apply to the Board in accordance with N.J.A.C. 14:4-8.9 for issuance of *Solar* Renewable Energy Certificates, or *[RECs]* *SRECS*, based on solar electric generation. Once the PJM's Generation Attribute Tracking System (GATS) *, or another tracking system approved by the Board,* is operational, *[a customer-generator]* *the owner of renewable attributes* may apply *[to PJM or its designee]* for issuance of class I renewable energy RECs. If RECs *or SRECs* are issued, the customer-generator *or other recipient of the RECs or SRECs* may *[itself]* trade or sell the REC *or SREC*, or may trade or sell the REC *or SREC* through an aggregator, or through a trading program authorized by the Board.

[(i)] *(j)* A supplier/provider or EDC shall provide net metering at non-discriminatory rates that are identical, with respect to rate structure, retail rate components, and any monthly charges, to the rates that a customer-generator would be charged if not a customer-generator, except that a supplier/provider or EDC may use a special load profile for the customer-generator, which incorporates the customer-generator's real time generation, provided the special load profile is approved by the Board.

[(j)] *(k)* A supplier/provider or EDC shall not charge a customer-generator any fee or charge; or require additional equipment, insurance or any other requirement *[not specifically authorized under this subchapter]*; unless the *fee, charge, or other requirement is specifically authorized under this subchapter, or the fee would apply to* *[same would be required of]* other customers that are not customer-generators.

(l) Nothing in this subchapter shall abrogate any person's obligation to comply with all applicable Federal or State laws or codes.

14:4-9.5 General interconnection *[application]* provisions

(a) Each EDC shall provide the following three review procedures for applications for interconnection of customer-generator facilities:

1. *[Simplified]* *Level 1* – an EDC shall use this review procedure for *all* applications to connect inverter-based customer-generator facilities, which have a power rating of 10 kW or less, and which meet the certification requirements at N.J.A.C. 14:4-9.6. *[Simplified]* *Level 1* interconnection review procedures are set forth at N.J.A.C. 14:4-9.7;
2. *[Expedited]* *Level 2* – an EDC shall use this review procedure for applications to connect customer-generator facilities with a power rating of 2 MW or less, which meet the certification requirements at N.J.A.C. 14:4-9.6. *[Expedited]* *Level 2* interconnection review procedures are set forth at N.J.A.C. 14:4-9.8; and
3. *[Standard]* *Level 3* – an EDC shall use this review procedure for applications to connect customer-generator facilities with a power rating of 2 MW or less, which do not qualify for either the *[simplified or expedited]* *level 1 or level 2* interconnection review procedures. *[Standard]* *Level 3* interconnection review procedures are set forth at N.J.A.C. 14:4-9.9.

(b) Each EDC shall designate an employee or office from which an applicant can obtain basic application forms and information through an informal process. On request, this employee or office shall provide all relevant forms, documents, and technical requirements for submittal of a complete application for interconnection review under this section *, as well as specific information necessary to contact the EDC representatives assigned to review the application* .

(c) Upon request, the EDC shall meet with an applicant who qualifies for *[standard or expedited]* *level 2 or level 3* interconnection review, to assist them in preparing the application.

(d) (No change from proposal.)

*(e) An EDC shall not be responsible for the cost of determining the rating of equipment owned by a customer-generator, or of equipment owned by other local customers.

(f) The provisions of this subchapter that apply to interconnection are primarily intended for customer-generator facilities that are eligible for net metering; that is, renewable generation facilities with a capacity no greater than two megawatts, which generate electricity for retail transactions. However, these provisions may be used for review of other interconnections at the discretion of the EDC.

(g) If the interconnection of a customer-generator facility is subject to interconnection requirements of FERC or PJM, the provisions of this subchapter that apply to interconnection apply to that facility only to the extent that they do not conflict with the interconnection requirements of FERC or PJM.

(h) If an applicant for interconnection disagrees with an EDC's determination of fact or need regarding matters covered in this subchapter, or if any person has a complaint regarding matters covered herein, the applicant or other person may file an informal complaint with the Board under N.J.A.C. 14:1-5.13, or may file a petition with the Board under N.J.A.C. 14:1-5.*

14:4-9.6 Certification of customer-generator facilities

(a) In order to qualify for the *[simplified]* *level 1* and the *[expedited]* *level 2* interconnection review procedures described at N.J.A.C. 14:4-9.7 and 9.8, a customer-generator facility must be certified as complying with the following standards, as applicable:

1. - 2. (No change from proposal.)

(b) An equipment package shall be considered certified for interconnected operation if it has been submitted by a manufacturer to a nationally recognized testing and certification laboratory, and has been tested and listed by the laboratory for continuous interactive operation with an electric distribution system in compliance with the applicable codes and standards listed in *[N.J.A.C. 14:4-9.6]* (a) *above*.

(c) If the equipment package has been tested and listed in accordance with this section as an integrated package, which includes a generator or other electric source, the equipment package shall be deemed certified, and the EDC shall not require further design review, testing or additional equipment *[for certification]*.

(d) If the equipment package includes only the interface components (switchgear, inverters, or other interface devices), an interconnection applicant must show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and consistent with the testing and listing specified for the package. If the generator or electric source being utilized with the equipment package is consistent with the testing and listing performed by the nationally recognized testing and certification laboratory, the equipment package shall be deemed certified, and the EDC shall not require further design review, testing or additional equipment *[for certification]*.

(e) (No change from proposal.)

14:4-9.7 *[Simplified]* *level 1* interconnection review

(a) Each EDC shall adopt a *[simplified]* *level 1* interconnection review procedure. The EDC shall use the *[simplified]* *level 1* review procedure *only* for an application to interconnect a customer-generator facility that meets all of the following criteria:

1. The facility is inverter-based;
2. The facility has a capacity of 10 kW or less; and
3. The facility has been certified in accordance with N.J.A.C. 14:4-9.6.

(b) For a customer-generator facility described at (a) above, the EDC shall approve interconnection under the *[simplified]* *level 1* interconnection review procedure if all of the applicable requirements at (c) through (g) below are met. An EDC shall not impose additional requirements not specifically authorized under this section.

(c) - (g) (No change from proposal.)

(h) An applicant shall submit an application for *[simplified]* *level 1* interconnection review on a standard form, available from the EDC and posted on the Board's website at www.bpu.state.nj.us. See N.J.A.C. 14:4-9.5(d). An applicant may choose to simultaneously submit an EDC's standard form interconnection agreement executed by the applicant.

(i) Within three business days after receiving an application for *[simplified]* *level 1* interconnection review, the EDC shall provide written or e-mail notice to the applicant that it received the application and whether the application is complete. If the application is incomplete, the written notice shall include a list of all of the information needed to complete the application.

(j) Within ten business days after the EDC notifies the applicant that the application is complete under (i) above, the EDC shall notify the applicant that:

1. The customer-generator facility meets all of the criteria at (c) through (g) above that apply to the facility, and the interconnection will be finally approved upon completion of the process set forth at (k) through *[(n)]* *(o)* below; or
2. The customer-generator facility has failed to meet one or more of the applicable criteria at (c) through (g) above, and the interconnection application is denied.

(k) If a customer-generator facility meets all of the applicable criteria at (c) through (g) above, the EDC shall, within three business days after sending the notice of approval under (j)1 above, do the following:

1. Notify the applicant if an EDC inspection of the customer-generator facility for compliance with this subchapter is required prior to starting operation of the facility; and
2. Execute and send to the applicant a *[simplified]* *level 1* interconnection agreement unless:
   i. The EDC does not require an interconnection agreement for customer-generator facilities that qualify for *[simplified]* *level 1* interconnection review; or

ii. The applicant has already submitted such an agreement with its application for interconnection, in accordance with (h) above.

(l) - (m) (No change from proposal.)

(n) If an EDC does not notify *[an]* *a level 1* applicant in writing or by e-mail whether the interconnection is approved or denied within 20 business days after the receipt of an application *[under simplified interconnection procedures]*, the interconnection shall be deemed approved. *The 20 days shall begin on the date that the EDC sends the written or e-mail notice or application receipt required under (i) above.*

(o) A customer-generator shall notify the EDC of the anticipated start date for operation of the customer-generator facility at least five days prior to starting operation, either through the submittal of the interconnection agreement or in a separate notice.*

[(o)] *(p)* If an application for *[simplified]* *level 1* interconnection review is denied because it does not meet one or more of the applicable requirements in this section, an applicant may resubmit the application under the *[expedited or standard]* *level 2 or level 3* interconnection review procedure, as appropriate.

14:4-9.8 *[Expedited]* *Level 2* interconnection review

(a) Each EDC shall adopt an *[expedited]* *level 2* interconnection review procedure. The EDC shall use the *[expedited]* *level 2* interconnection review procedure for an application to interconnect a customer-generator facility that meets both of the following criteria:

1. - 2. (No change from proposal.)

(b) For a customer-generator facility described at (a) above, the EDC shall approve interconnection under the *[expedited]* *level 2* interconnection review procedure if all of the applicable requirements at (c) through (l) below are met. An EDC shall not impose additional requirements not specifically authorized under this section.

(c) - (l) (No change from proposal.)

(m) An applicant shall submit an application for *[expedited]* *level 2* interconnection review on a standard form, available from the EDC and posted on the Board's website at www.bpu.state.nj.us. An applicant may choose to simultaneously submit an EDC's standard form interconnection agreement executed by the applicant.

(n) Within three business days after receiving an application for *[expedited]* *level 2* interconnection review, the EDC shall provide written or e-mail notice to the applicant that it received the application and whether the application is complete. If the application is incomplete, the written notice shall include a list of all of the information needed to complete the application.

(o) Within *[ten]* *fifteen* business days after the EDC notifies the applicant that the application is complete under (n) above, the EDC shall perform an initial review of the proposed interconnection to determine whether the interconnection meets the applicable requirements at (c) through (l) above. During this initial review, the EDC may, at its own expense, conduct any studies or tests it deems necessary to evaluate the proposed interconnection. The initial review shall result in one of the following determinations:

1. - 3. (No change from proposal.)

4. The customer-generator facility has failed to meet one or more of the applicable requirements at (c) through (l) above, and the initial review indicates that additional review would not enable the EDC to determine that the customer-generator facility could be interconnected consistent with safety, reliability, and power quality. In such a case, the EDC shall notify the applicant that the interconnection application has been denied, and shall provide an explanation of the reason(s) for the denial, including a list of additional information and/or modifications to the customer-generator's facility, which would be required in order to obtain an approval under *[expedited]* *level 2* interconnection procedures.

(p) - (r) (No change from proposal.)

(s) If an application for *[expedited]* *level 2* interconnection review is denied because it does not meet one or more of the requirements in this section, the applicant may resubmit the application under the *[standard]* *level 3* interconnection review procedure.

14:4-9.9 *[Standard]* *Level 3* interconnection review

(a) Each EDC shall adopt a *[standard]* *level 3* interconnection review procedure. The EDC shall use the *[standard]* *level 3* review procedure for an application to interconnect a customer-generator facility that has a capacity less than 2 megawatts and does not qualify for the *[simplified]* *level 1* or *[expedited]* *level 2* interconnection review procedures set forth at N.J.A.C. 14:4-9.7 and 9.8.

(b) (No change from proposal.)

(c) The EDC shall provide an impact study agreement to the applicant, which shall include a good faith cost estimate for an impact study to be performed by the EDC. An impact study is an engineering analysis of the probable impact of a customer-generator facility on the safety and reliability of the EDC's electric distribution system. An impact study shall be conducted in accordance with good utility practice, as defined at N.J.A.C. 14:4-9.2, and shall:

1. - 2. (No change from proposal.)

3. Focus on power flows and utility protective devices *, including control requirements*.

(d) - (f) (No change from proposal.)

(g) Upon completion of a facilities study, the EDC shall provide the applicant with the results of the study and an executable interconnection agreement. The agreement shall list the conditions and facilities necessary for the customer-generator facility to safely interconnect with the EDC's electric distribution system, the cost of those facilities, and the *estimated* time required to build and install those facilities.

(h) - (i) (No change from proposal.)

(j) Each EDC shall include in any tariff or published procedures for *[standard]* *level 3* interconnection review each element of an impact study, including a description of the review the EDC will undertake for each element. An impact study shall include the following elements, as applicable:

1. - 7. (No change from proposal.)

14:4-9.10 Interconnection fees

(a) An EDC or supplier/provider shall not charge an application or other fee to an applicant that requests *[simplified]* *level 1* interconnection review. However, if an application for *[simplified]* *level 1* interconnection review is denied because it does not meet the requirements for *[simplified]* *level 1* interconnection review, and the applicant resubmits the application under another review procedure in accordance with N.J.A.C. 14:4-9.7 *[(o)]* *(p)*, the EDC may impose a fee for the resubmitted application, consistent with this section.

(b) For an *[expedited]* *level 2* interconnection review, the EDC may charge fees of up to $50 plus $1 per kilowatt of the customer-generator facility's capacity, plus the cost of any minor modifications to the electric distribution system or additional review, if required under N.J.A.C. *[14:4-9.8(p)3]* *14:4-9.8(o)3* or 4. Costs for such minor modifications or additional review shall be based on EDC estimates and shall be subject to case by case review by the Board or its designee. Costs for engineering work done as part of any additional review shall not exceed $100 per hour.

(c) For a *[standard]* *level 3* interconnection review, the EDC may charge fees of up to $100 plus $2 per kilowatt of the customer-generator facility's capacity, as well as charges for actual time spent on any impact and/or facilities studies required under N.J.A.C. 14:4-9.9. Costs for engineering work done as part of an impact study or facilities study shall not exceed $100 per hour. If the EDC must install facilities in order to accommodate the interconnection of the customer-generator facility, the cost of such facilities shall be the responsibility of the applicant.

14:4-9.11 Requirements after approval of an interconnection

(a) An EDC shall not require an applicant whose facility meets the criteria for interconnection approval under the *[simplified]* *level 1* or *[expedited]* *level 2*

interconnection review procedure required pursuant to N.J.A.C. 14:4-9.7 and N.J.A.C. 14:4-9.8, to install additional controls or external disconnect switches not included in the equipment package, to perform or pay for additional tests, or to purchase additional liability insurance, except if agreed to by the applicant.

(b) (No change from proposal.)

(c) Once a net metering interconnection has been approved under this subchapter, the EDC shall not require a customer-generator to test *or perform maintenance on* its facility except for the following:

1. An annual test in which the customer-generator's facility is disconnected from the electric distribution company's equipment to ensure that the inverter stops delivering power to the grid; *[or]*
2. Any manufacturer-recommended testing *[.]* *or maintenance; and*
3. *Any post-installation testing necessary to ensure compliance with IEEE 1547 or to ensure safety.*

(d) When a customer-generator facility approved through a level 2 or level 3 review undergoes maintenance or testing in accordance with the requirements of this subchapter, the customer-generator shall retain written records documenting the maintenance and the results of testing. No recordkeeping is required for maintenance or testing performed on a customer-generator facility approved through a level 1 review.

[(d)] *(e)* An EDC shall have the right to inspect a customer-generator's facility after interconnection approval is granted, at reasonable hours and with reasonable prior notice to the customer-generator. If the EDC discovers that the customer-generator's facility is not in compliance with the requirements of this subchapter, and the non-compliance adversely affects the safety or reliability of the electric distribution system, the EDC may require the customer-generator to disconnect the customer-generator facility until compliance is achieved.